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THESIS

AVIATION SQUADRON ORGANIZATION DEVELOPMENT OF THE
NAVY'S LIGHT AIRBORNE MULTI-PURPOSE SYSTEM
(LAMPS) MK III

by

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December 1981

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Aviation Squadron Organization Development of the Navy's
Light Airborne Multi-Purpose System (LAMPS) Mk III

by

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ABSTRACT

This paper examines the evolution of the U.S. Navy's SH60-B, LAMPS Mk III aircraft and squadron methodology. It analyzes current HSL organization design and introduces alternative organization structures to support this new helicopter community when it is introduced in the fleet in 1983-84. It begins with a statement of the issue which includes a concise historical overview of the LAMPS program and discusses its tactical and support missions. It next examines the conventional naval air squadron organization methodology from which LAMPS squadrons are designed and manned. A statistical analysis of operational fleet HSL squadrons is presented which concludes that conventional squadron design methodology does not support the unique LAMPS community. Four general alternative organization models are proposed followed by a discussion of the possible utilization of the Naval Flight Officer in the LAMPS System. The paper concludes with a summary of the proposals from which organization redesign may result and offers recommendations to that process.

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I. INTRODUCTION

A. STATEMENT OF THE ISSUE

1. A Need for Organization Redesign

The United States Navy is in a period of rapid technological growth and change. Sophisticated and complex weapon systems, as well as advanced platforms with which to deploy them, are being developed, produced, and introduced into the fleet. One such project is the Navy's new Light Airborne Multipurpose System (LAMPS) Mark III. Such growth in weapons technology coincides with the sharp decline in recent years in the number of ships and aircraft, and the Navy's inability to obtain and retain sufficient numbers of skilled personnel. These factors have a significant impact on the capability of the Navy to operate, maintain, and support new advanced systems. Efficient management of strained economic and manpower resources has assumed critical importance. New and innovative methods of training, maintenance, logistic support, deployment, operation, and manning are required.

One area of concern is the composition and structure of naval aviation squadrons. Naval aviation is comprised of a variety of sophisticated aircraft types engaged in a wide assortment of missions. Although the planes and missions are numerous and diverse, a basic common denominator exists throughout the system: the naval air squadron organization. The traditional squadron structure is based on shipboard organization methodology, which is the cornerstone of naval organizational structure. It was designed to meet the needs of a "typical" air squadron which is permanently shore based, or deployed aboard aviation ships as a unit.

This organization has worked well for fixed wing--attack (VA), fighter (VF), patrol (VP), antisubmarine (VS), and helicopter antisubmarine (HS) squadrons--because they normally maintain squadron integrity both ashore and at sea.

However, a large and growing segment of naval aviation is composed of aircraft systems which deploy in what is considered by many in the Navy to be "nonstandard" ways. An excellent example is the new Light Airborne Multipurpose System (LAMPS). This recently adopted program will result in substantial growth to the rotary wing community. Ten new squadrons, including a Fleet Readiness/Training Squadron (FRS) on each U.S. coast, and 2,352 new billets will be required. At present, no organization structure exists to support this growth. Initial planning for these new nonstandard squadrons calls for them to be manned according to current Helicopter Antisubmarine Light (HSL) squadron manning methodology. Although this approach conforms well to traditional aviation squadron's organizational concepts, it fails to support adequately the HSL operating mode. It has not worked well in the LAMPS Mk I community.

The mission of these squadrons is to provide either single or dual helicopter detachments which deploy aboard small surface combatants. Each deployed detachment is under the jurisdiction of a different operational commander. The squadron retains only administrative control of these deployed units.

The current HSL organization structure maintains both shore based (nondeploying) and sea duty (deployable) personnel. Approximately 40 percent of squadron manpower serves as overhead in these shore duty

billets to make this type of organization viable. The remaining 60 percent of key squadron positions are filled by sea duty personnel who transfer in and out of squadron billets to meet detachment requirements as dictated by varying deployment schedules. This places a drain on personnel, increases training requirements, and creates an overall lack of squadron stability. Added to this is the fact that the missions of the squadron and its operating units (the detachments) essentially are different and often are conflicting. Also, important functions such as training and maintenance are inefficiently duplicated by each squadron within a wing. The end result is that the squadron cannot train its personnel effectively, nor adequately maintain its at-home aircraft assets.

Most HSL squadrons employ the standard organizational structure, but operate as a matrix organization in which personnel assets are shuffled between departments and detachments to meet changing operational and administrative requirements. This works against operational effectiveness and creates a climate in which people tend to feel insignificant in terms of total results. Careful management and effective leadership can diminish these tendencies, but eventually the sheer size of the problem depletes squadron vigor and effectiveness.

Navy planning documents call for the 10 new LAMPS Mk III squadrons to be structured and manned similarly to existing HSL squadrons. Obviously, many of the deficiencies discussed above could be solved by an unlimited supply of personnel and dollars. This, however, is not available. The addition of eight new operational, and two new fleet replacement HSL squadrons for the Mk III, requires a delta increase

in the Navy's already exhausted personnel assets. The only viable alternative is to adjust or redesign the organizational structure on a wing basis that considers real world manpower constraints.

Estimates indicate that by 1987, more than one-third of naval aircraft in the inventory will be of the rotary wing types which deploy on a "detachment" basis. Beyond 1990, new Vertical/Short Takeoff and Landing (V/STOL) aircraft such as the LTV-A7C Corsair will be entering the fleet, and will be deployed in nontraditional ways.

the purpose here is to identify key issues in squadron organization and suggest possible alternatives.

The first generation of these new naval air squadrons is the topic of this paper. The LAMPS Mk III program provides the Navy with a challenge, and a unique opportunity to address the weaknesses in HSL organization and manning, as well as to address the special needs of a sophisticated new systems era. Many aspects of this issue are emotional and entrenched in tradition. This report develops the need for an analytical approach to identify key issues regarding squadron organizational design, and suggests possible alternatives.

B. BACKGROUND INFORMATION

1. The Evolution of the Light Airborne Multipurpose System (LAMPS) Mk III

The Light Airborne Multipurpose System is part of a complete weapon (ship/air) system designed to maintain part of our national defense program: to keep sea lanes open, and to protect high value military and commercial ships during a major conflict.

The LAMPS project is a \$3.9 billion dollar long range program that is the Navy's reaction to a deficiency in surface fleet antisubmarine warfare (ASW). The program evolved in 1970 from an urgent requirement of the Chief of Naval Operations (CNO) for a program to develop a manned helicopter that would support and serve as a ship's tactical ASW air arm. The advanced sensors, processors, and display capabilities aboard the helicopter would enable the ship to extend its capabilities beyond the classic line-of-sight limitations for surface threats, and the distance limitations for acoustic detection, prosecution, and attack of underwater threats.

The LAMPS role initially was filled (in the early 1970s) by the installation of shipboard equipment and conversion of the Kaman SH-2 helicopter (already in the Navy's inventory) to a LAMPS configuration. As that proved successful, the Navy planned for a Mk II version of employing similar electronics but different helicopter platforms.

In FY 1972, the CNO abandoned the project for the current system which adds improved electronics as well as greater range, and the Recovery, Assist, Securing, and Traversing (RAST) system for all-weather shipboard recovery. As illustrated in Figure 1, this aircraft "haul-down" system expands LAMPS aircraft recovery to a sea-state Condition 5 (winds to 33 knots, and sea wave swells to 13 feet).

The S-70L, since designated SH-60B Seahawk, was United Technology Sikorsky Division's submission for the Navy's LAMPS Mk III competition. It was selected as the winner in September 1977 in preference to the Boeing Vertol's Model 237. Detail design of the Seahawk was initiated by a U.S. Navy award to Sikorsky of a \$2.7 million sustaining engineering

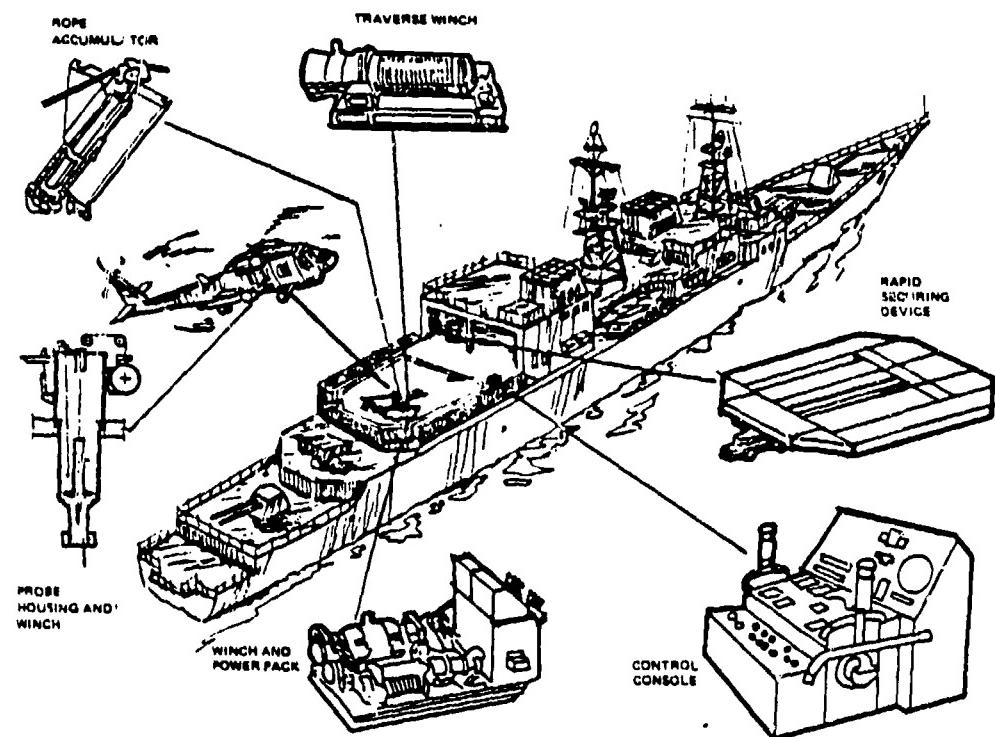


Figure 1: LAMPS Mk III RAST System

contract. Concurrently, General Electric was given a \$547,000 contract for further development of the T700-GE-401 advanced turboshaft engine to provide increased power and improved corrosion resistance. Additionally, a \$17.9 million contract went to IBM Federal Systems to continue development of the avionics essential for the SH-60B to fulfill the LAMPS Mk III role.

On 28 February 1978, it was announced that the U.S. Department of Defense (DOD) had authorized full-scale development of the SH-60B and had awarded Sikorsky Aircraft a \$109.3 million contract for the development, manufacture, and flight testing of five prototypes, plus a further airframe for ground testing. Earlier, Sikorsky had updated the original UH-60A Black Hawk mockup to SH-60B configuration. This aircraft was

reviewed formally by Department of Defense officials prior to the announcement of the contract award. In July and August 1978, this mockup was used for shipboard compatibility trials on board the frigate USS Oliver Hazard Perry (FFG-7), and the Spruance class destroyer, USS Arthur W. Radford (DD-968).

In mid-September 1978, the Navy responded to congressional demands and reported to the Senate Armed Services Committee that it had restructured the LAMPS project to reflect \$401.2 million in cuts without adversely affecting the \$3.9 billion overall program. In earlier sessions, the House recommended ending the program in favor of updating the existing LAMPS Mk I system.

In February 1979, the main transmission of the SH-60B completed qualification trials during which it was tested to a maximum of 3600 shaft horsepower (shp). That performance was 600 shp in excess of the Navy's mission performance specifications. On 29 March 1979, it was announced that final assembly of the first Seahawk prototype had begun, and the first flight was made on 12 December 1979. The remaining four prototypes were flown in early mid-1980, and operational evaluation began in November of that year in time to obtain the results for a Defense System Acquisition Review Council (DSARC) at the Pentagon. With DSARC's support, the Navy was able to gain congressional approval to procure 204 of these new helicopters for deployment onboard 114 naval ships of four classes: the DD-963 Spruance class ASW destroyer, the DD-993 Kidd class and CG-47 Aegis equipped guided missile fleet air defense destroyers, and the FFG-7 Oliver Hazard Perry class guided missile frigate.

The LAMPS Mk III weapon system embodies a ship and air integration ASW/ASST (antiship surveillance and targeting) concept. Figure 2 graphically depicts the two subsystems and their elements.

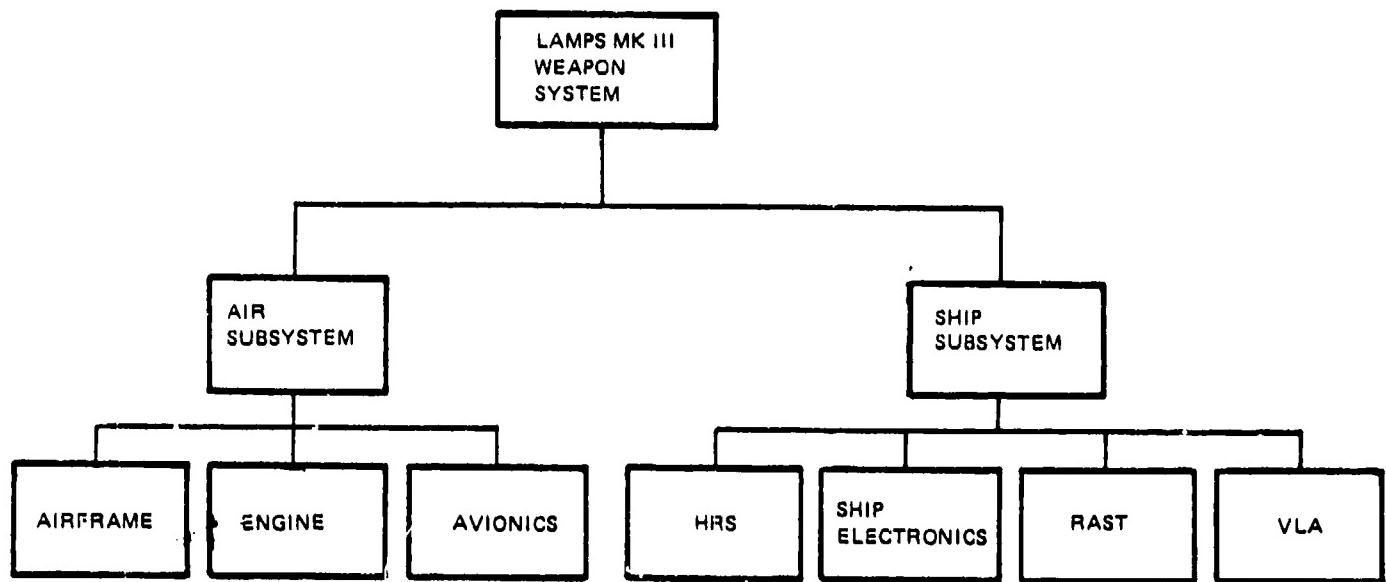


Figure 2: LAMPS Mk III Weapon System

The integrated ship/air weapon system consists of the following functional areas:

- a. "System Control and Management" provides the necessary controls and processing on both the aircraft and the ship to perform system mode control, status monitoring, tactical processing, and data recording and extractions.
- b. "Sensor" functions in ASW redetect, classify, identify, and localize enemy submarines. (Specific ASW equipment and processes are discussed in later text.) Against surface threats, an airborne 360° surface search radar is provided for detection of threat missile launch

platforms. Electronic support measures (ESM) equipment provides a passive radio frequency (RF) classification capability for detection of surface and subsurface threats.

c. "Display" functions provide controls and displays to both shipboard and airborne Mk III system operators to aid them in helicopter and tactical direction, and in evaluating data from acoustic, radar, ESM, and magnetic anomaly detector (MAD) sensors. The parent ship has tactical displays for helicopter direction and control, including such functions as: navigation, data link control, ASW control, and antiship status monitoring. Shipboard ESM display equipment has the capability to control aircraft ESM equipment, and to enter threat data through the data system console. Additionally, the shipboard acoustic sensor operator can control and display acoustic data for acoustic threat detection and classification.

d. The "ordnance" function allows selection and launch of sonobuoys and torpedoes. Torpedo arming settings and operational mode can be preset onboard either on the surface ship or in the aircraft. Deployment of sound underwater source (SUS) and chaff from either the ship or the aircraft is accomplished by use of special auxiliary equipment. Sonobuoy selection and launch can be done either manually or automatically by onboard computer. Torpedo selection and deployment always are done manually by the pilot or airborne tactical officer.

e. "Communications" equipment provides secure and unsecure voice communications, acoustic sensor, tactical navigation, ESM, and radar data transmissions, as well as helicopter command and control functions between the aircraft and the ship via UHF, VHF, secure data link, and intercomputer communications networks. (See Figure 3.)

LAMPS MK III WEAPONS SYSTEM

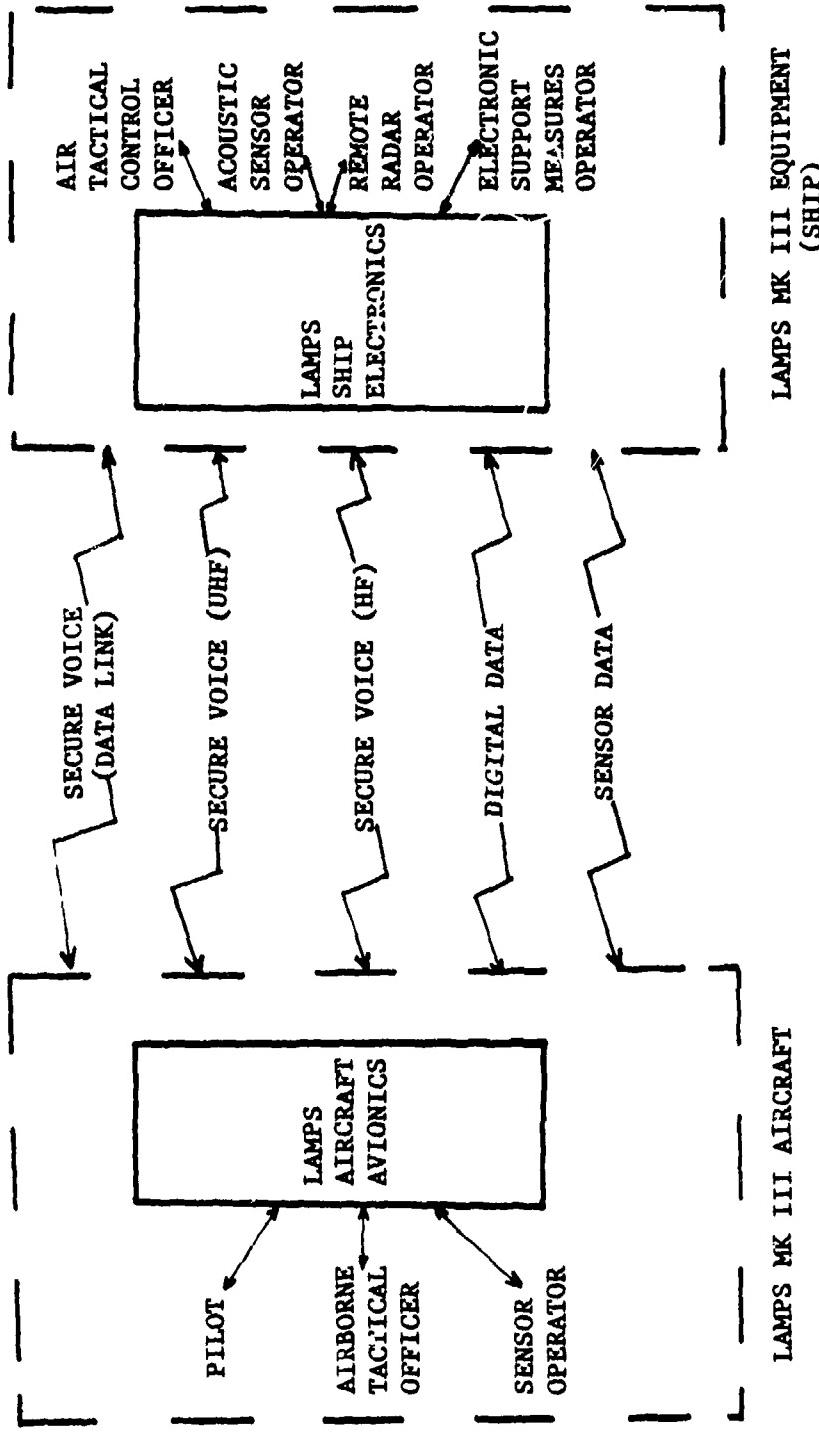
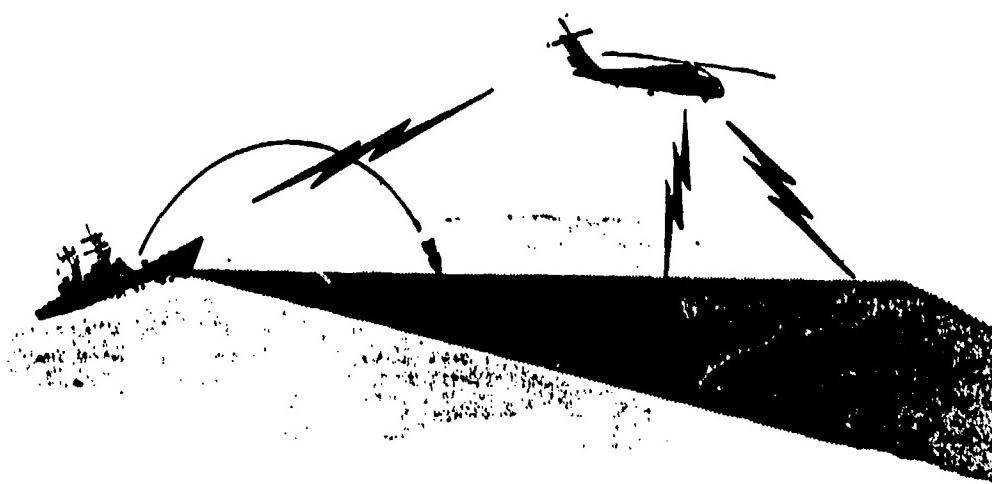


FIGURE 3 - LAMPS MK III Communication System

f. The "navigation" function determines and maintains the helicopter and ship's positions with respect to a fixed geographic reference point, and provides flight and tactical information for display to both helicopter and shipboard operators. Provisions are made to update the aircraft position via data link, TACAN, or radar/IFF data.

2. Mission Profile and Weapon System Overview of the LAMPS Mk III

The LAMPS Mk III has been designed to assist the Navy combat team in moving freely on the seas and in the sky, while denying that same freedom to an enemy. In the fulfillment of the Navy's sea control mission, LAMPS Mk III will encounter a threat that has many dimensions. The threat encompasses a hostile submarine fleet and missile-equipped surface ships. The primary missions of the new LAMPS Mk III weapon system are those of antisubmarine warfare (ASW), and antiship surveillance and targeting (ASST). (See Figure 4.)



SHIP

- LOCALIZE DIRECT PATH CONTACTS
- PROSECUTE CLOSE-IN CONTACTS
- DETECT CONVERGENCE ZONE (CZ) CONTACTS

LAMPS AIRCRAFT

- LOCALIZE AND CLASSIFY BOTTOM BOUNCE (BB) AND CONVERGENCE ZONE (CZ) CONTACTS
- PROSECUTE BB AND CZ CONTACTS
- PROSECUTE CONTACTS FROM OTHER SOURCES

Figure 4: LAMPS ASW Mission Profile

The Seahawk also is required to perform secondary missions which include search and rescue (SAR), medical evacuation (Medevac), vertical replenishment (Vertrep), and communication relay (Comrel). The SH-60B helicopter provides an airborne platform for a variety of ASW equipment and other sensors whose information is relayed real time via fully digitized data link back to the combat information center (CIC) of its parent frigate or destroyer. This multichannel, encrypted data link communications system, operating in a ship-to-aircraft mode, enables CIC officers to control the airborne sensors directly, thereby extending the ship's ASW tracking and radar search capabilities far beyond the horizon. In this respect, the LAMPS Mk III will give the new destroyers and frigates an elevated platform for limited electronic sensors and remote torpedo weapons stores delivery capability previously enjoyed exclusively by aircraft carriers.

Principal sensors for ASW against submerged submarines are sonobuoys, which can be dropped by the LAMPS aircraft, and a magnetic anomaly detector (MAD), which measures variations in the earth's natural magnetic field caused by a transitory ship or submarine. Through use of the sophisticated LAMPS Mk III compatible shipboard tactical data system hardware, the ship provides tactical direction, acoustic sensor processing, redetection, and evaluation in the execution of its primary ASW and secondary missions. Additionally, the SH-60B will be able to alert task group ships to the proximity of enemy ships for own-ship defense to target McDonald Douglas Harpoon missiles and General Dynamics Tomahawk Cruise missiles in the ASST mission role.

The operational software for the SH-60B will total approximately 215,000 words, with an additional 900,000 words of software devoted to self-test and fault isolation. Extensive built-in test analysis is provided so that shipboard maintenance personnel need only replace one or more of the 100 "black boxes" on board that prove defective in preflight tests. This time-saving, self-diagnostic maintenance operation can be accomplished without requiring shipboard test equipment. IBM also developed approximately 250,000 words of operational software for the shipboard system, and an additional 980,000 words of computer code is projected for shipboard system test and fault isolation.

3. Typical ASW/ASST Mission Scenarios

a. ASW

In an ASW mission, the SH-60B Seahawk would transit from the parent ship when a suspected threat is detected by the ship's towed-array sonar, hull-mounted sonar, or by other sources. Operating through the data link and remotely controlled by a ship's operator, the LAMPS search radar searches the contact area. Enroute, the aircrew deploys an SSQ-36 bathytermographic sonobuoy into the water to gauge temperature and transmittability to get the best possible acoustical return. The aircraft proceeds to the estimated target area (area of probability) where expendable passive sonobuoys are pneumatically deployed in a pattern designed to redetect and entrap the submarine. (Twenty-five sonobuoys may be carried by each deployed Seahawk.) Acoustic signatures detected by the buoy's variable depth hydrophones are transmitted over a VHF frequency band to the aircraft where they are coded and retransmitted to the ship for interpretation, analysis, and integration with data from other ship's sensors.

The Seahawk also has a limited capability to interpret the acoustic data by use of its onboard analyzer detection set (AN/DYS-1). When the location of the threat has been determined with adequate precision, the aircraft descends below the radio horizon and operates independently from the ship to execute final confirmation by employing active or passive sonobuoys, or by trailing its magnetic anomaly detector behind the aircraft. Passive sonobuoys can determine the direction of the target with respect to the buoy. In the active mode, target range (from the buoy) can be determined by the use of reflected energy or echoing. When specific attack criteria are achieved, an attack can be initiated by launching one or both of the MK-46 homing torpedoes that the Seahawk carries.

b. ASST

LAMPS would be launched for its ASST mission in response to information received by the ship of the possible presence of a threat. The helicopter radar and ESM sensors, operating on remote commands from the parent ships, greatly increases the capability to detect other ships by extending the search horizon, and by providing search data to the ship for correlation with other data. The parent frigate or destroyer normally maintains tactical control of the helicopter throughout the mission, although, as in the ASW role, the LAMPS Mk III can operate independently in its ASST mission duties. The LAMPS Mk III system can spend up to two hours on station 100 nautical miles (nm) away from the parent ship, compared to the limited range of 35 nm and one-hour prosecuting endurance of the LAMPS Mk I system.

4. LAMPS Mk III Aircrew/Shipboard Tactical Team Functional Descriptions

The LAMPS Mk III system requires a total of seven personnel: four on the ship, and three aircrew members. The helicopter crew is comprised of a pilot in the right seat; an airborne tactical officer (ATO), who doubles as a copilot, in the left flight station position; and an enlisted sensor operator (AW). When the aircraft is below the VHF radio frequency horizon, the ATO assumes mission command and acts autonomously from the parent ship.

On the ship, tactical LAMPS duties are divided among the air tactical control officer (ATCO--an officer who is the mission commander), the acoustic sensor operator (ASO), the remote radar operator (RRO), and the electronics support measures operator. Table 1 and Figure 5 depict the duties and tasks in greater detail.

It is apparent that the mission of the LAMPS Mk III system is one of teamwork and coordination. This paper will approach the management design of this advanced weapon system's squadron organization with an emphasis on providing a structure to support the LAMPS program while striving to work within the manpower constraints and retention dilemmas that currently plague the naval service.

Table 1: LAMPS Mk III Shipboard Operator Functions

Air Tactical Control Officer (ATACO):

- a. Direct tactical operations
- b. Direct the LAMPS mission
- c. Control ship/aircraft communications
- d. Control Data Link
- e. Initialize the system and recover from system failures
- f. Generate fly-to-points
- g. Select sonobuoys for deployment
- h. Designate sonobuoys to be processed
- i. Localize contacts
- j. Enter target tracks
- k. Authorize prosecution

Acoustic Sensor Operator (ASO):

- a. Process sonobuoy acoustic data
- b. Tuna sonobuoys
- c. Detect submarine
- d. Identify submarine
- e. Classify submarine
- f. Enter contact position data
- g. Control active sonobuoys

Remote Radar Function:

- a. Operate airborne search radar
- b. Operate airborne IFF (identification, friend or foe) interrogator
- c. Detect and track targets

Electronic Support Measures (ESM) Function:

- a. Establish threat processing parameters
- b. Control airborne ESM receiver
- c. Identify/classify emitters
- d. Enter ESM bearing lines
- e. Fix emitter positions

OPERATOR FUNCTIONS

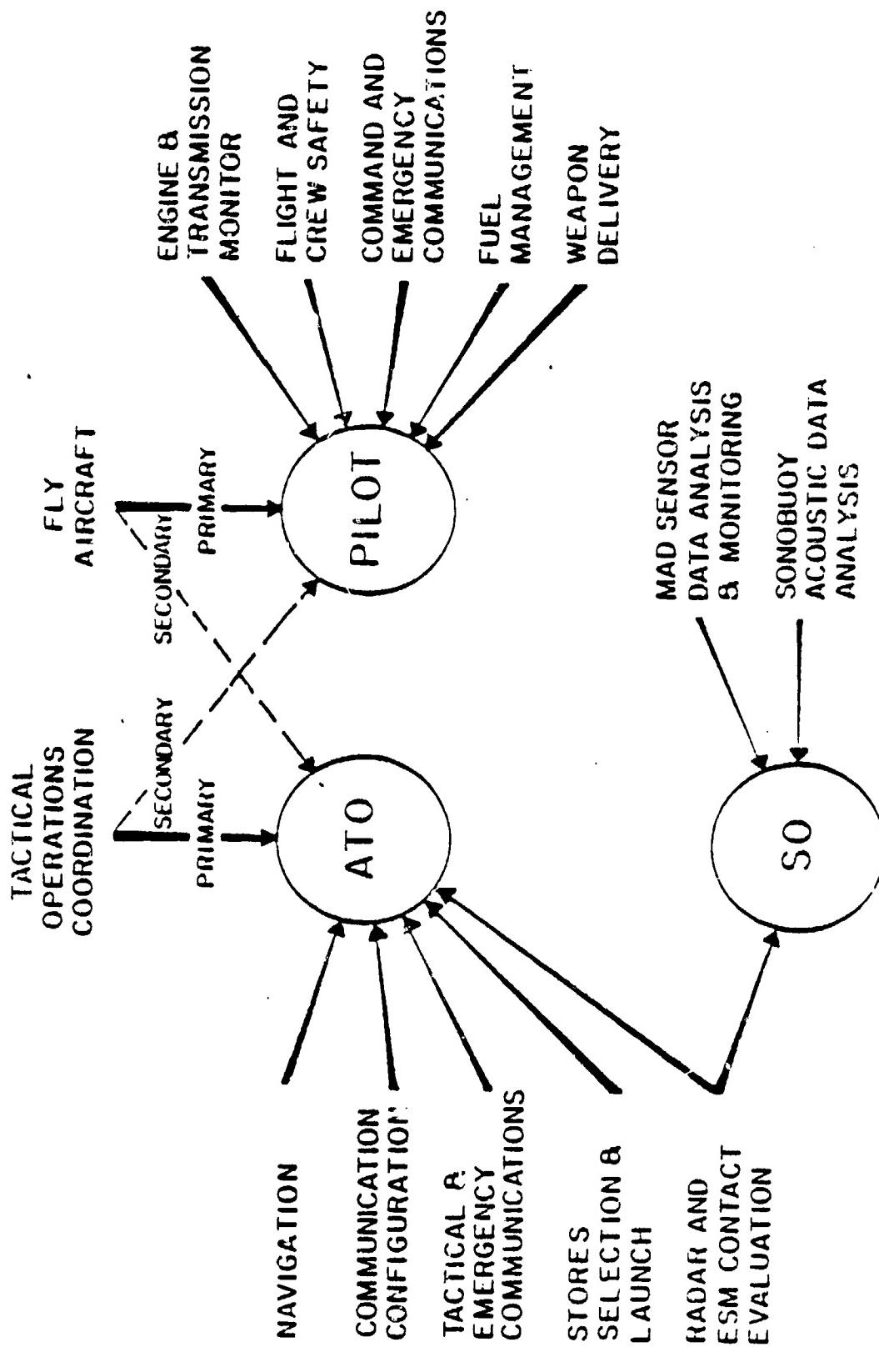


Figure 5: LAMPS Mk III Aircrew Operator Functions

II. LAMPS SQUADRON ORGANIZATION STRUCTURE

A. CURRENT ANTISUBMARINE WARFARE HELICOPTER LIGHT SQUADRON (HSL) ORGANIZATION

1. Purpose

The purpose of this chapter is to acquaint the reader with the current organization structure of the LAMPS Mk I squadron, and the methodology employed by the Navy to determine squadron manpower requirements. The structure of the current HSL squadron is based on traditional naval shipboard organization methodology, which is the design medium of all U.S. naval organization structures. Current planning decisions call for the design of the 10 new LAMPS Mk III air squadrons to follow this organization blueprint.

In reviewing this section the reader should keep in mind that, unlike any other naval organizational structure, the LAMPS community consists of two different assigned manpower elements: those personnel on shore duty (nondeploying work force), and a compliment of officers and enlisted personnel on sea duty. Sixty percent of the billets of the LAMPS squadron are filled by sea duty service members who rotate to and from deployments as their demanding detachment and ship schedules dictate. This highly transient characteristic makes for a lack of organization stability and continuity, and is an issue of primary concern.

2. The HSL Squadron Design Process

This section constitutes a guide for the organization and administration of the LAMPS squadron, and for the maintenance of proper administrative relationships among all departments of these squadrons.

The duties outlined in this organizational concept constitute the formal delegation of responsibility and authority of the commanding officer of each squadron to the officers and key enlisted personnel within the squadron. (No squadron organization structure design feature is to be modified so as to disregard or supersede U.S. Naval Regulations or any directives of higher authorities.)

In general, all LAMPS Mk I squadrons are organized in accordance with the directives contained in NWP 50, and OPNAVINST 4790.2B. An understanding of the design rationale of the current HSL squadron can be achieved best by examining the following processes and principles:

a. Process of Organization

The administration establishes organizational objectives and the overall policies that guide an organization in the attainment of these objectives. To organize is to develop and maintain proper relationships between functions, personnel, and material factors for the accomplishment of the desired objectives, with a maximum of economy. The process of organization has two aspects: the mechanical, which deals with organization structure; and the dynamic, which deals with the integration of human factors into the organizational structure.

b. Mechanics of Organization

The mechanical aspects of organization are defined as the determination of the activities that are necessary to any purpose, and the arrangement of such activities in groups. Mechanics are concerned basically with structure; and since they primarily are static, they can be illustrated in the form of organizational charts, or by job descriptions.

c. Dynamics of Organization

The human element is the primary factor in the dynamic aspect of organization. U.S. Navy Regulations places responsibility on the commanding officer to organize the officers and enlisted personnel of his unit. Organization of the entire command is a primary responsibility of the executive officer, under the commanding officer. Heads of departments have the duty of organizing their departments for readiness in battle, including the organization of subordinates by assignments to watches, stations, and duties.

d. HSL Basis for Organization

The requirements for battle are the basis for the organization of HSL squadrons. A unit's organization for battle consists of functional groups headed by key officers who are at specified stations and control the activities of personnel under their direction. Such control ensures the effectiveness of the organization in carrying out either the plan for battle, or variations necessitated by the tactical situation.

As in all naval organization structures, the commanding officer heads the HSL battle organization and exercises command. During action it is his responsibility to engage the enemy to the best of his ability. The components of the battle organization are described fully in Battle Control, NWIP 50-1.

e. Standard Pattern of Organization

A comparison of the administrative and the battle organization indicates that the division of personnel in administrative departments closely approximates that found in the major battle

components. However, to meet the requirements of sound organizational principles, the administrative organizational structure must allow for the carrying out of certain functions which have no place in battle. In the day-to-day routine, the needs of training and maintenance are emphasized, and certain support measures are administrative necessities.

The mission of the HSL squadron is to provide the Commander, Naval Air Force, U.S. Atlantic/Pacific Fleets with LAMPS capable helicopter detachments to be deployed aboard U.S. fleet assigned ships. In that regard, the commanding officer normally will administer and supervise the activities of the departments through the executive officer. Heads of departments are assigned assistants as necessary to carry out departmental duties. Billets listed in the organization manual of each HSL squadron will be assigned on a primary or collateral duty basis as directed by the commanding officer, executive officer, or department head, based on current billets authorized by the Chief of Naval Personnel and, because of current naval manpower shortages, officer availability. All officers will assist seniors to whom they are assigned, and will assume responsibility in the absence of their immediate superior. As is a provision of most naval organizational designs, in the event of the incapacity, relief from duty, or absence of the HSL commanding officer, the succession to command shall be in the order of seniority among the assigned naval aviators eligible to command.

The "conventional" LAMPS command organization structure and its departments' organizational relationships are reflected in Figures 6a and 6b.

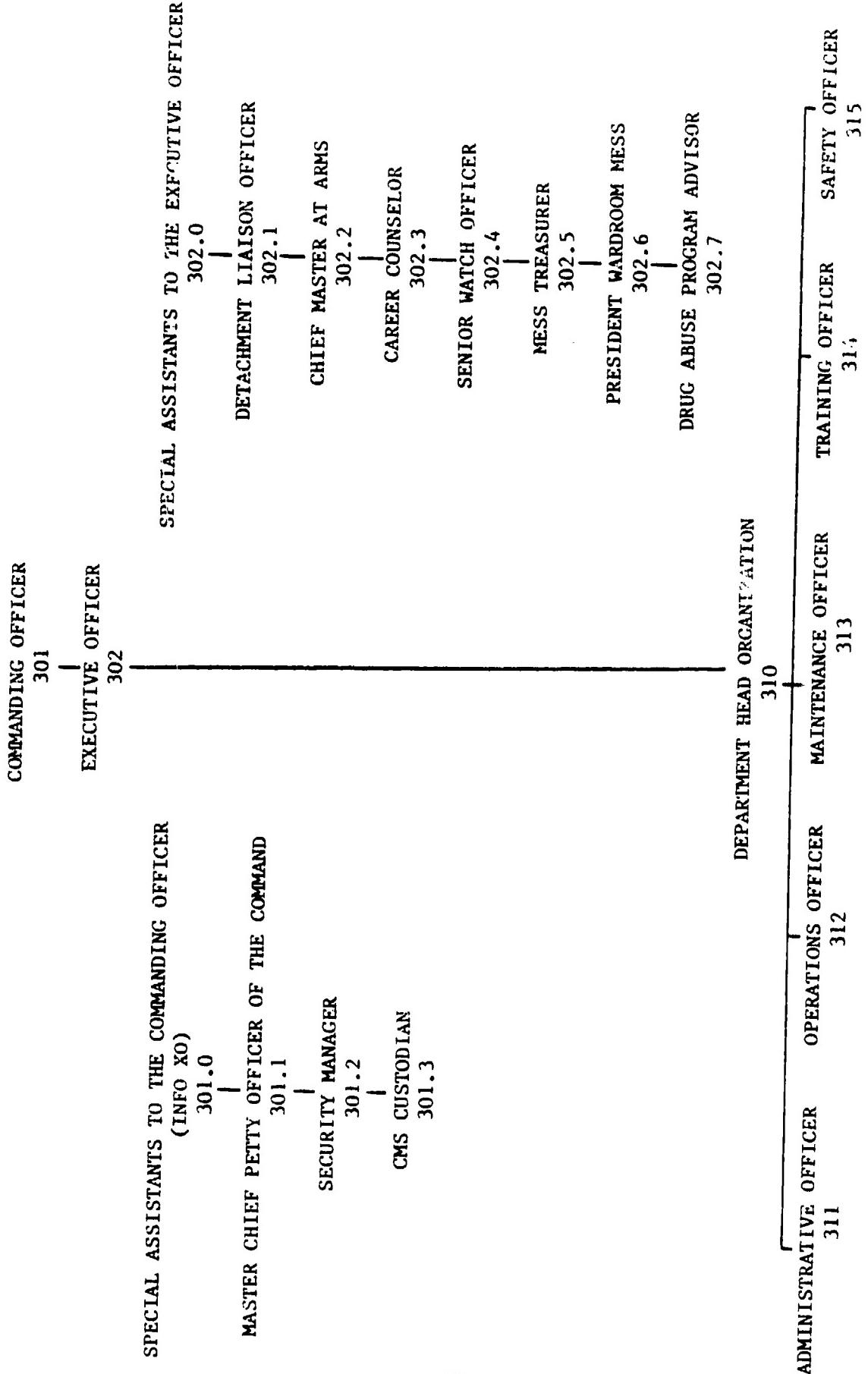


Figure 6a: HSL Squadron Organization Block Design

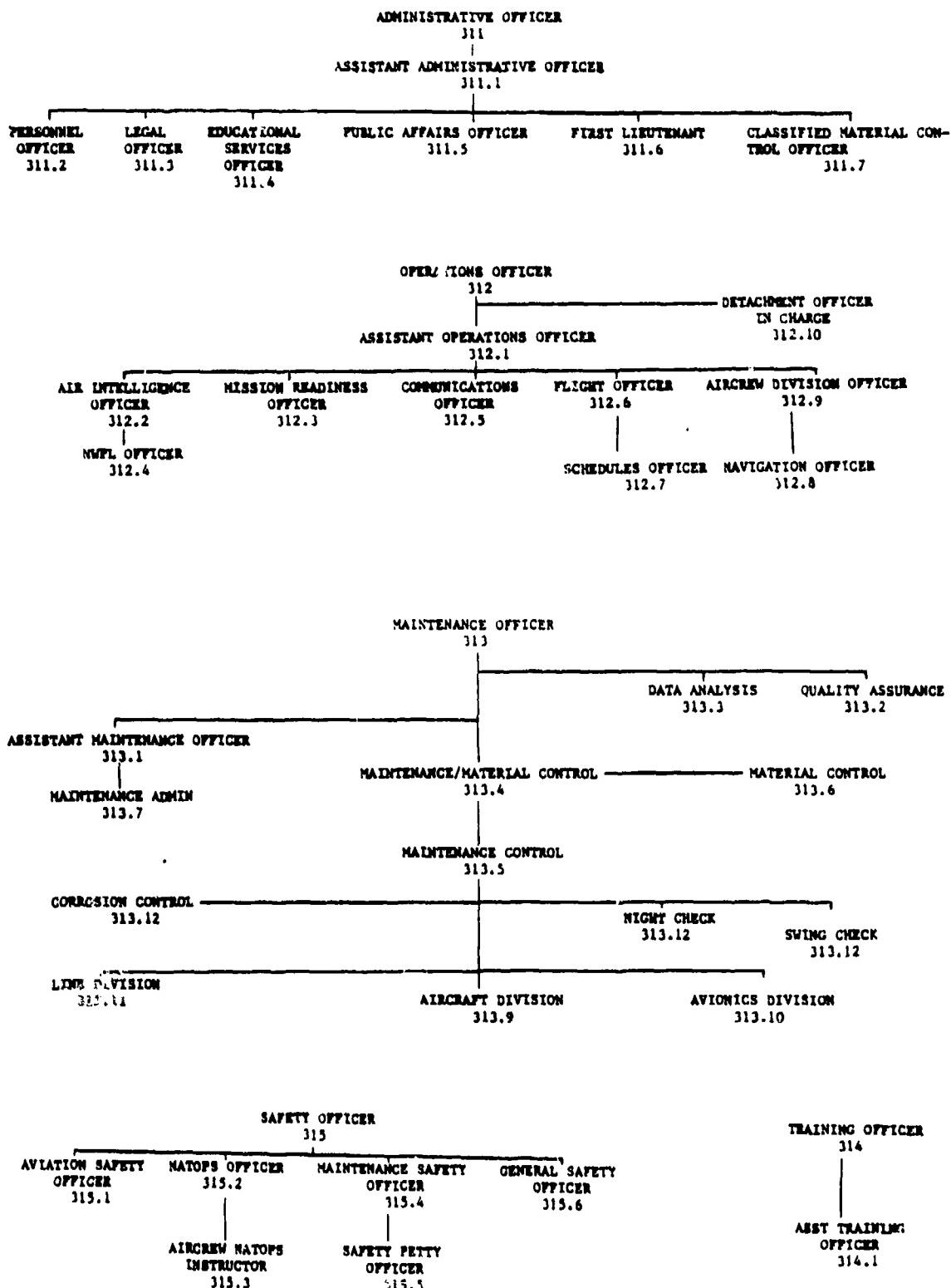


Figure 6b: HSL Departmental Organization

B. SQUADRON MANPOWER DETERMINATION METHODOLOGY

1. Introduction

To introduce a design change to an organization structure, one first must understand the organization and its manning requirements. This section describes the Navy's squadron manpower requirements program as it currently is employed in LAMPS Mk I squadrons.

The squadron manpower requirement's program documents manpower requirements for all of the Navy's aviation squadrons, and publishes them in Squadron Manpower Documents (SQMDs). They are based upon statements of mission-tasking, known as the Required Operational Capabilities (ROC), and Projected Operational Environment (POE), as developed by the Deputy Chief of Naval Operations (Air Warfare). The ROC/POE presents specific squadron tasking in terms of mission area, type and quantity of aircraft, flight crew composition monthly flight hour utilization, length of the flying day, average sortie length, crew rations, air/maintenance student load, and several other quantified factors. ROE/POE's are verified and updated annually, or as changes occur.

The program is managed by the Deputy Chief of Naval Operations (Total Force Planning) OP-11, and is supported by manpower validation teams at the Navy Manpower and Material Analysis Centers, Atlantic/Pacific (Norfolk, Virginia, and San Diego, California, respectively). One of the many teams of experienced manpower analysts visit each squadron to validate the manpower requirements for that squadron, or class of squadrons. Draft SQMD's subsequently are developed and forwarded to the squadron's chain of command for review, prior to publication as an OPNAV instruction. The published SQMD then becomes

the basis for squadron, or squadron class (i.e., LAMPS Mk III HSL's), manpower planning and programming.

2. Process

The squadron manpower requirements process involves the computation of weekly workload as driven by tasking contained in the ROC/POE. The workload then is divided by the productive work hours available in a week to obtain the quantity of billets required at a work center, by work center basis. Workload is categorized as: preventive maintenance (PM), corrective maintenance (CM), administrative support (AS), facilities maintenance (FM), utility tasks (UT), directed manning (DM), and officer manning (OM).

a. Preventive Maintenance

PM accounts for scheduled maintenance workload needs taken directly from Maintenance Requirements Cards (MRCs) for each type and model of aircraft, and divided into the following categories: PM/aircraft/flight hour (FH), PM/aircraft/sortie (flight), PM/aircraft/day, and PM/aircraft/week. Each of these areas are subcategorized by maintenance work centers (electricians, air frames, mechanics, quality assurance, ordnance, etc.) with appropriate ratings and NEDs as determined from the Maintenance Requirements Cards. The SQMDs preventive maintenance data bank is updated continuously as MRCs are updated.

Raw PM is calculated for each work center by using the formula(s):

$$\begin{aligned} \text{Raw PM} = & (\# \text{ aircraft})(\text{PM/aircraft/week} + \\ & (\# \text{ sorties/week})(\text{PM/sortie}) + \\ & (\# \text{ flight hrs/week})(\text{PM/flight hr}) + \\ & (\# \text{ aircraft})(\text{PM/day/aircraft})(\# \text{ of days/wk}) \end{aligned}$$

$$\text{Total PM} = (\text{Raw PM})(1 + \text{MR/PA})[1 + (\text{PA} + \text{PD})]$$

where: MR/PA = 30 percent of Raw PM

PA = 20 percent of Raw PM

PD = variable by environment and work center

b. Corrective Maintenance

CM accounts for unscheduled maintenance workload, and is updated annually for each model aircraft. It is derived from historical 3-M data (maintenance, material, manpower) obtained from the Navy Aviation Maintenance Support Office (NAMSO). CM is regressed statistically to form predictive equations which enable the determination of total squadron manhours of workload required at any level of flight activity. The CM is broken down into two types of equations, predicting both MAF (Maintenance Action Form) and SAF (Special Action Form) documented workload. Data for each type and model aircraft is further segregated into deployed and shore based categories. In addition to regression analysis, ratios by work unit code are developed to determine how much of the squadron's total CM workload is assigned to each maintenance work center.

Two equations are used to compute CM total weekly MAF and total weekly SAF manhours:

$$\text{MAF} = (.23)(y)e^{[\text{MAF} \cdot \ln a - \text{MAF} \cdot \ln b (x)]}$$

$$\text{SAF} = (.23)(y)e^{[\text{SAF} \cdot \ln a - \text{SAF} \cdot \ln b (x)]}$$

where: y = total monthly flight hours

.23 = value to convert from month to week

e = base of the natural logarithm

MAF/SAF ln a - first MAF/SAF regression coefficient

MAF/SAF ln b = second MAF/SAF regression coefficient

x = total monthly hours or maximum documented
flight hours, whichever is less

Using the exponential form, e^a , enables accurate prediction based upon the documented fact that as flight hours increase, maintenance manhour/flight hour decreases. In the equation the $\ln a$ and $\ln b$ values, and x, are derived from documented monthly 3-M statistics. The value of y is obtained from the ROC/POE. Once MAF and SAF total workloads are computed, the next step is to assign these hours in the appropriate percentages. An allowance for production delay is added to the CM to arrive at total CM for the work center. PD is a percentage allowance of from five to 35 percent of the raw CM, and varies by environment (deployed or ashore) and by work center.

The Manpower Requirements Program has determined that the documented preventive and corrective maintenance workload by itself does not describe adequately the total efforts expended by a work center in performing its required PM and CM. Thus, workload allowances known as Productivity Allowances (PA), Make Ready/Put Away (MR/PA), and Production Delay (PD) are added to PM and CM to account for otherwise not included factors such as fatigue, nonavailability of aircraft, tools or support equipment, personal needs, changing work conditions and areas, environmental effects, awaiting technical assistance, inclement weather and transportation. The exact employment of each allowance is outlined in later text.

The steps necessary to construct a Squadron Manning Document are depicted in Figure 7.

c. Administrative Support

AS accounts for supervision, clerical work, and administrative functions. It is determined through use of formulas which calculate

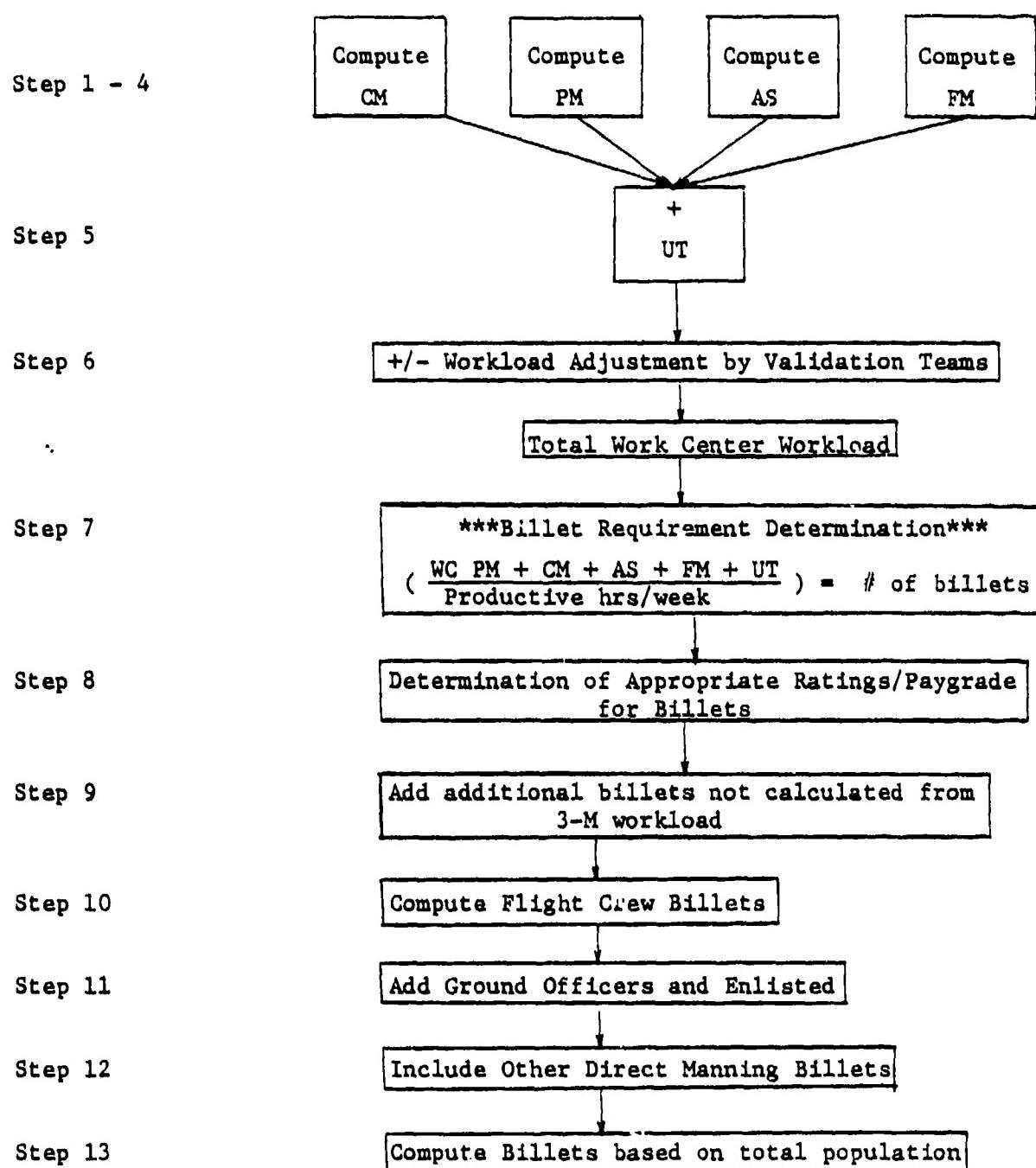


Figure 7: SQMD Computation Process by Work Center

total squadron AS as a function of the total maintenance workload (PM + CM). The actual values of the coefficients vary with environment (deployed, ashore, or shore based Fleet Readiness Squadron), and are of the form:

$$\text{Total AS} = a + bx$$

$$\text{where } x = \text{PM} + \text{CM}$$

a and b are coefficients for the appropriate environment

The total AS then is divided among the various work centers using a percentage allocation method similar to that used for CM.

d. Facilities Maintenance

FM provides for routine housekeeping of assigned living, working, and operating spaces, including Foreign Object Damage (FOD) walkdowns. It is calculated as a percentage of each work center's AS workload. The formula used to compute FM is as follows:

$$\text{WC FC} = (\text{WC AS})(\text{WC FM}\%)$$

where WC denotes specific work centers

The FM percentages were determined through operational audit, which is a work measurement technique and varies by work center.

e. Utility Tasks

UT workload accounts for the workload assigned to ship-based squadrons in the form of working parties which augment ship's company personnel in performing underway replenishment evolutions (UNREP). UT is in the form of hours of workload which are added to the work centers. The amounts of UT were determined by the OP audit technique. This variable normally is not used in HSL SQMD determinations since deployed units of personnel operate as autonomous units

away from the squadron, and thus their personnel are not associated with a specific squadron work center.

f. Adjustments in Workloads

Since the 3-M data used in the SQMD process are subject to statistical averaging, it is necessary for the SQMD validation team to verify the predicted workload by screening the squadron's own in-house 3-M data to determine accuracy. The team is charged with finding any cases of over- or under-documentation, and making any necessary adjustments to the predicted workload. These adjustments may be made to any work center, and to any category of workload.

g. Quantity Computation

After the total workload is calculated for each work center, the billets required are computed by dividing the productive manhours available per week for the appropriate Standard Navy Workweek (OPNAVINST 1000.16E). These workweeks are described in terms of number of total production hours out of a 40 and a 70 hour workweek in Table 2.

Table 2: At Shore and at Sea Navy Standard Workweek

<u>Personnel at Shore</u>		<u>Squadron Personnel at Sea</u>	
Std. Workweek	40.00 hrs	Std. Workweek	70.00 hrs
Less: Training	1.83	Less: Training	3.50
Service diversion	3.00	Service diversion	3.50
Leave	1.85		
Holidays	1.38		
<hr/>		<hr/>	
Total Time for Productive Work	31.94 hrs	Total Time for Productive Work	63.00

The computation process is:

$$\text{Work Center Billets} = \frac{\text{WC PM + CM + AS + FM + UT}}{\text{productive hrs/week}}$$

h. Quality Computation

Quality is defined as rate, rating, and naval enlisted classifications (NEC). The appropriate ratings are determined for each work center from the 3-M sources data which were used in computing the preventative and corrective maintenance workloads. The second step in attaching quality to the computed billets is to assign paygrades. Matrices are used which assign a set of paygrades based upon the total billets computed (in the quantity computation). These paygrade distribution matrices were developed using a combination of the BUPERS occupational classification system and paygrade requirements as determined by SQMD analysts using the OP audit technique. Table 3 is an example of the paygrade distribution matrix for the production work centers (W/C 110, 120, 121, 130, 131, 210, 211, 212, 220, 230, and 310).

Table 3: Paygrade Distribution Matrix for
Production Work Centers (SQMD Design)

# of Billets	Paygrades					
	E-3	E-4	E-5	E-6	E-7	E-8
11	4	3	2	1	1	0
12	4	4	2	1	1	0
13	4	4	3	1	1	0
14	5	4	3	1	1	0
15	5	4	3	2	1	0

Following the assignment of paygrades, naval enlisted classifications are attached based on the proportion of their occurrence in the preventative and corrective maintenance data. For example, in a LAMPS squadron with both Mk I and Mk III aircraft assigned, with the Mk I contributing 70 percent of the workload, and the Mk III airframe contributing 30 percent of the workload in a given work center, the Mk I NECs would be assigned to 70 percent of the billets and the Mk III NECs would be assigned to the remaining 30 percent. NEC assignments are verified for minimum and maximum paygrades in accordance with the NEC manual (NAVPERS 18068 series).

i. Flight Crew

Flight crew billets in non-Fleet Readiness Squadrons are computed from seat factors and crew ratios found in the Projected Operational Environment. The total in each category (pilot, naval flight officer (NFO), and aircrewman) is computed as follows:

$$\frac{\text{Total aircrew billets}}{\text{for each respective aircrew position}} = \frac{(\text{seat factor})(\text{crew seat ratio})}{x (\# \text{ aircraft})}$$

After the number of pilot, NFO, and aircrew billets are computed for each type aircraft, these figures are added to give totals for the entire squadron. A squadron seldom maintains different types of aircraft, although a few such squadrons do exist (i.e., VT's, VC, and VX squadrons). The computation normally is accomplished by a one-time application of the formula. All assigned aircraft are figured in the equation even if rework and PAR activities are slated resulting in extended down-times in aircraft availability.

For pilot and NFO billets, the commanding and executive officers normally are paygrade O-5 (Commander); the department heads normally are paygrade O-4 (Lieutenant Commander); and the remaining billets normally are divided one-third to paygrade O-3 (Lieutenant), and two-thirds to paygrade O-2 (Lieutenant, junior grade). CO and XO billets normally are not counted against a squadron's SQMD. For aircrew billets, NECs are assigned in accordance with the NEC Manual (NAVPERS 18068D).

The Navy Enlisted Classification Codes supplement the enlisted rating structure in identifying personnel on active or inactive duty, and billets in manpower authorizations. NECs reflect special knowledge and skills that identify personnel and requirements when the rating structure is insufficient by itself for manpower management purposes. The NEC is a four-position alpha numeric code. Paygrades are assigned so as to be in consonance with limitations of the NEC Manual, and to provide a scaled-down pyramid within each rating and enlisted classification.

In Fleet Readiness Squadrons, such as the two LAMPS Mk III FRSs, instructor requirements (pilot, NFO, aircrew, and simulator operators) are determined by using the squadron's most recent submission of the planning factors for FRS data (OPNAVINST 3760.13). Student load is determined by the POE. CO, XO, and department heads are included in addition to instructor billets. Usually the minimum officer pay-grade for instructor billets is O-3, and an aircrew/FRAMP enlisted instructor is E-5-6 (Second/First Class Petty Officer).

j. Special Billets

Maintenance/Material Control CPO billets are based on the number of shifts as taken from the POE. Table 4 illustrates the shift matrix from which the billet/paygrade determination is made.

Table 4: SQMD Special Billet Matrix for CPO

# of Shifts	Paygrade		
	E-7	E-8	E-9
1	1	0	1
2	1	1	1
3	2	1	1

Ratings are assigned via a matrix which spreads all ratings equitably over all the squadrons so as not to favor any particular rating in the work center. CPOs are assigned system NECs except for the E-9 Maintenance Chief billet, which normally will not receive a classification. The Executive Assistant billet is written as MCPOC (Master Chief Petty Officer of the Command), and is an E-9 billet.

Division CPO billets (WC 100, 200, 300) are written using the rating, and the most common NEC rating within the Division. The Division CPO billet is one paygrade senior to the most senior work center supervisor being supervised. However, the Division CPO will not exceed E-8.

Watchstander requirements are identified in the SQMD, and billets are written into the "Executive" Department to account for all

workload associated with watches, e.g., ASDO, messenger, security watches, BEQ MAA, etc. Watchstander billets are written as APO (Aviation Petty Officer) or PO (Petty Officer) vice a specific rating.

Facilities Maintenance billets in the First Lieutenant Division are computed based upon the number of BEQs, the amount of physical space assigned for upkeep, and the manpower requirements for airstation support duties, i.e., mess cook.

Yeoman billets in the Operations Department are written to account for the administrative workload associated with logs and records, and other departmental workload. Billets are calculated from a formula which relates total YN workload to sorties per week. Other billets in the OPS Department (IS, PH, DM) are determined through on-site OP audit.

AK billets in the Material Control Division are calculated based upon a formula which relates storekeeper workload to the quantity of material requisitions initiated, which in turn is based on the model aircraft and the utilization rate.

k. Other Billets

There are several categories of billets which are not, at this time, derived from CNO approved manpower standards. These billets are determined through OP audit and, where possible, work measurement techniques. Billets that fall into this category are: FRAMP, AIMD, Integrated Services, COMM, and EW departments in the VQ squadrons. These billets normally are included in the Directed Manning (DM) workload category.

i. Final Billet Computations

Yeoman, personnelman, and career counselor billets are computed last since they are derived from equations which relate billets to total squadron population. Separate paygrade matrices are employed for the Administrative and Personnel Offices.

m. Display

Appendix A illustrates an HSL SQMR (OPNAVINST 5320 series).

The document is organized in a standard format as follows:

Section I: Mission, ROC/POE reference

Section II: Summary by Department

Section III: Listing of billets by Billet Sequence Number (BSN) and Work Center

Section IV: Summary of workload requirements by work center

Section V: Functional Workload

Section VI: Summary of requirements by rate, rating and NEC

Section VII: Summary by total billets

III. ANALYSIS OF HSL SQUADRON MANNING POLICY

A. UNOBTRUSIVE WEAKNESSES OF CURRENT HSL SQUADRON ORGANIZATION

1. Background

There exists a number of behind-the-scenes issues that are unique to the HSL squadron organization design. One such issue, the sea/shore duty personnel assignment mix, was noted at the beginning of Chapter II. This nonstandard personnel blend frequently contributes to squadron performance weakness and inefficiency. The following examples serve to illustrate waste and system redundancy.

In each HSL squadron a 40 percent personnel asset overhead is maintained and categorized as shore based, or nondeploying--many of whom are aviators. Although these aviator assets are employed specifically in the administrative and maintenance of squadron assets, all are required to remain flight proficient even though they never deploy. This proficiency cost in terms of training/evaluating manhours, aircraft utilization, and maintenance/fuel expenditures is staggering.

A second example witnesses many critical billets such as Squadron Legal Officer being assigned to a sea duty/deployable officer. Many weeks and training dollars are expended in formal outside legal training (TAD). As the legal officer deploys, the squadron is faced with the alternatives of gapping the position for six-to-eight months, or redesignating and training another aviator in this essential billet. The latter option is expensive, both in monetary terms and in the loss of a valuable personnel asset during the training process.

A third unobtrusive redundancy exists within the current HSL maintenance division design. When a helicopter deploys aboard ship, air and maintenance crew personnel deploy as a unit. Both crew factions operate autonomously from the control of the parent command maintenance and operations department. The aircraft are fully maintained by combining the talents of the at-sea aviation supply, electrical, mechanical, and maintenance administration personnel. Once the deployment ends, the autonomous maintenance effort ceases to function, and the aircraft and maintenance personnel return to squadron "pools" and reestablish themselves in the squadron maintenance effort.

This conventional organizational practice (outlined in detail in OPNAVINST 4790.2B (NAMP)) ignores long range planning by failing to recognize that these aircrew/maintenance personnel will be reestablished again as a deployed unit. This reestablishment effort will expend precious training dollars and manhours that could be avoided if the aircrew/maintenance unit were allowed to continue to function as an autonomous workforce. A pragmatic approach toward reducing HSL redundancy might be found in allowing the air/maintenance crews to remain as operating units on a continuous basis, thereby eliminating many standard squadron maintenance divisions and reducing manpower requirements. This issue is discussed in later text.

These examples are included to introduce a number of inherent weaknesses in current LAMPS organization design rationale. Ensuing text will expand on these ideas.

B. ANALYSIS OF FACTORS INFLUENCING MANNING

1. Introduction

The following is an analysis illustrating the problems of flight proficiency for sea/shore duty HSL pilots, weaknesses in training, and the substandard manning policies outlined in Section A. It addresses both Atlantic and Pacific Fleet LAMPS Mk I squadrons, and introduces supportive rationale that HSL squadrons do not fit universally in the standard Navy approach to manning and organization detailed in Chapter II. The model used in this analysis was developed in answer to production shop manning prediction methods outlined in previous text, and concludes that actual work week hours and other SQMID variables are significantly different than the standard manning method suggests.

2. Flight Hour Requirements

The COMASWINGSPAC and COMNAVAIRLANT Readiness and Training manuals specifically delineate the per squadron pilot proficiency maintenance requirement (PMR) of 29 flight hours per pilot per month. Current funding constraints are such that less than these required flight hours are available. The difference between funded hours and the readiness flight hour goal is achieved by reducing the shore duty pilot flight time target to General NATOPS (OPNAV 3710.7 series) minimums of 100 flight hours per year. Every possible effort is expended to maintain all sea duty pilots at proficiency maintenance levels.

The squadron "at home" monthly flight time goal for an average month is determined from two requirements. The first variable represents the flight time requirements for the shore duty pilots.

This requirement is constant for all months, and is determined as follows:

$$\frac{(7 \text{ shore duty pilots}) \times (100 \text{ hrs/yr})}{(2 \text{ pilots/aircraft}) \times (12 \text{ months/yr})} = 29.2 \text{ aircraft flight hrs/mo}$$

The seven shore duty pilots require a total of 29.2 aircraft flight hours/month to maintain minimums. The second component of the monthly goal is the nondeployed sea duty pilot flight time requirement. This value is found by taking the number of pilots not deployed, multiplied by 29 hours per month (PMR). According to the test squadron's historical 3-M data, during an average month, 48 percent of the detachments are at home. The average sea duty pilot at-home flight time requirement is then:

$$\frac{(30 \text{ sea duty pilots}) \times (29 \text{ flight hrs}) \times (48\% \text{ at-home})}{(2 \text{ pilots/aircraft})} = 208.8 \text{ aircraft flight hrs/month}$$

The total at-home flight time goal for the average month is, therefore, $208.8 + 29.2 = 238$ flight hours. This goal varies month-by-month depending on the number of detachments deployed.

It should be noted that while pilots are authorized for 10 detachments, a number of squadrons examined in this analysis show documented manning levels above the manpower requirements established in their individual SQMDs. This is, in the opinion of the administrative and personnel officers, a manpower buildup in the LAMPS Mk I community anticipating the establishment of the LAMPS Mk III squadrons early in FY83. Due to this overmanning situation, the first portion of this analysis will be conducted using 3-M summary data prior to this non-policy manning condition. This almost unprecedented overmanning situation creates an even more aggravated flight hour requirement for pilot proficiency training.

It also should be noted that the nonstandard requirement of assigning both sea and shore duty pilots to the LAMPS squadrons presents a unique problem to the HSL community--a problem not addressed by current SQMD methodology.

3. Documentable Group Manhours

The HSL squadron maintenance manpower workforce consists of two factions: production, and support rated personnel. Production personnel are concerned with the physical "hands on" maintenance of the aircraft, while support personnel "support" the maintenance effort by performing the functions of supervision, maintenance administration, supply, and tool and equipment support.

Chapter II outlined the number of total productive manhours per week that are available for work under at-home and deployed conditions. This analysis indicates that there is a significant difference between those manhours programmed and the number of manhours actually available for work. To demonstrate the magnitude of the difference, manhours for an average month will be determined in two ways: first, programmed manhours will be developed strictly adhering to the guidelines of OPNAV 1000/16 E (Manual of Navy Officer and Enlisted Manpower Policies and Procedures); and secondly, the actual hours available will be determined using the training and leave requirements experienced by the sample squadrons during the corresponding timeframe as in the 3-M data. Taken from squadron Manning publications, the number of personnel remained constant for each method. There were, on the average, 11 shore duty production personnel working in billets documenting manhours, and 95 sea duty personnel in documenting billets.

During this analysis, a squadron average of eight detachments of nine maintenance men each (72 total) were formed during the study period. Out of the 95 assigned sea duty personnel, only 23 were available to support the shore establishment. Of the 11 shore personnel, one enlisted man was utilized in a "nondocumenting" work assignment in the squadron's tool room (as required by current type commander directives). Combining these variables, Figure 8 computes the total average number of groups of production personnel at-home.

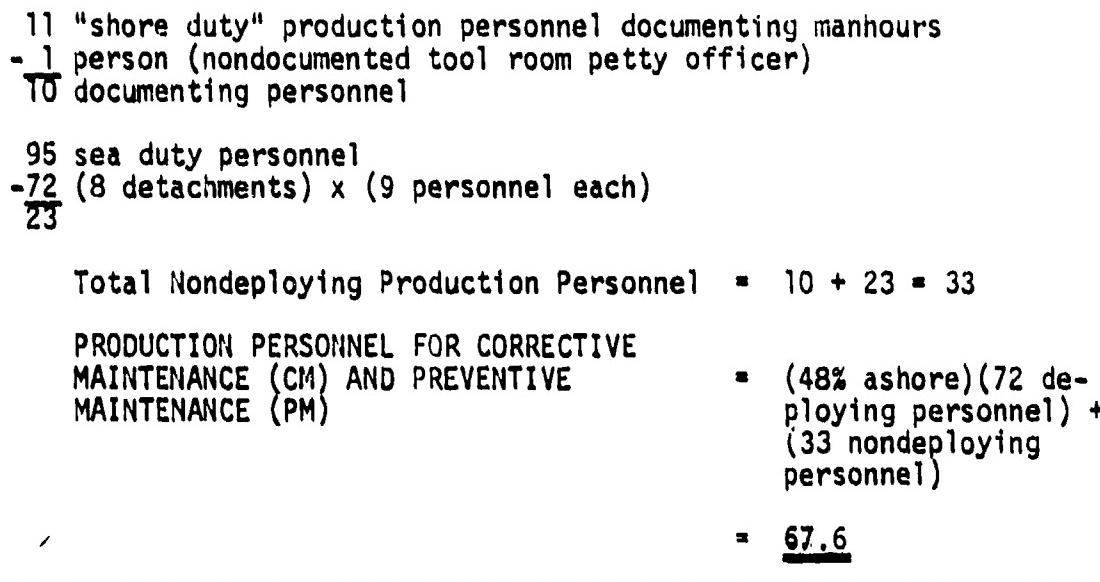


Figure 8: HSL At-Home Production Personnel

These hours represent only a portion of the total manhours worked. The ratio of CM and PM to total working hours is specified in the current OPNAV 5320.XXX series (SQMDS), and varies depending on the enlisted rate. For Aviation Electrician's Mates (AE), the average ratio is 82.8 CM and PM hours/124.7 work hours, or 0.664. For Aviation Machinist's Mates (AD), Aviation Structural Mechanics (AMS), and

Aviation Hydrolic Mechanics (AHH), the average ratio is 0.562. Chapter II states that the nonproductive manhours of administrative support, facilities maintenance, and utilities tasks are directly related to the total maintenance workload. Increasing personnel available will not change these ratios, thus they can be used to determine both programmed and actual manhours.

4. Programmed Manhours

The Manual of Navy Total Force Manpower Policies and Procedures states there are 31.94 hours available each week for work. For the sample squadron average of 30.3 AEs, ATs, and AXs, the working hour figure results in programmed manhours as follows:

$$(30.3 \text{ men}) \times (6.4 \text{ hrs/day}) \times (0.664 \text{ ratio}) = 128.8 \text{ manhours/day of maintenance}$$

Additionally, the daily hours for the study's average of 37.3 ADs, AMSs, and AMHs was computed using the same method and substituting the airframe maintenance/total working hours ratio of 0.562 as follows:

$$(37.2 \text{ AD, AMH, AMS}) \times (6.4 \text{ hr/day}) \times (0.562 \text{ ratio}) = 134.7 \text{ manhours/day of maintenance}$$

For an average at-home work month of 21 working days, the expected programmed documented manhours is the sum of these values multiplied by 21, which equals 5523.0 monthly PM and CM manhours.

5. Actual Manhours

This analysis indicates that the standard Navy workweek used in determining current squadron manning levels does not describe adequately the real world operating situations. The variables of both training and leave times (regular and emergency) differ greatly from those programmed in OPNAVINST 1000.16 series. The required formal

schools for maintenance personnel consume an average of 16.2 days/year for personnel assigned on sea duty, and 19.2 days/year for shore duty personnel. (See Table 5.)

Table 5: HSL Tour Training Requirements by Rate

SEA DUTY PERSONNEL
(length in days follows school)

AE	AT/AX	AD	AMH/AMS
ASE (16.5)	LN 66 (10)	T-58 IMA (17)	NARF Print & Insignia (12)
FRAMP C/C (2.5)	FRAMP C/C (2.5)	NARF C/C (6)	NARF C/C (5)
ASN 50 (8.0)	LAMPS SK (4)	Eddy Current (5)	Eddy Current (5)
W/C SUP, E-6 (5.0)			
LMT, E-4/5 (5.0)	LMP, E-4/5 (5.0)	LMP, E-4/5 (5.0)	LMP, E-4/5 (5.0)
GSE (3)			
TORP LOAD (2)			
Firefighting (2)			
Plane Capt. (10)			
	Forklift (5)		DCPO (1)
	LSE (3.5)		
TOTAL	49 days	47 days	49 days
			49 days

AVERAGE = 48.5 days/3 yr. tour = 16.2 training days/year

SHORE DUTY PERSONNEL
(additional schools to above)

AE	AT/AX	AD	AMH/AMS
FRAMP Battery (11.5) (10)	FRAMP (18.5)	FRAMP (9.5)	FRAMP (11)
TOTAL	66.5 days	54 days	54.5 days
			55 days

AVERAGE = 57.5 days/3 yr. tour = 19.2 training days/year

Using values derived in Table 5, the actual weekly hours for training were determined by the following method:

$$\frac{(40 \text{ hrs/week}) \times (16.2 \text{ training days/yr})}{(260 \text{ workdays/yr}) \times (.48 \text{ at-home ratio})} = 5.20 \text{ hrs/week}$$

The factor 0.48 was employed to account for the requirement that all personnel must attend formal schools prior to deployment. A similar formula and rationale was used to compute the weekly leave figure, since leave usually is taken while personnel are not deployed. For the sample squadrons in this study, sea duty personnel leave figures averaged 6.7 hours of leave/week--greater than an entire workday.

This same procedure was employed to determine the total hours/week leave values for shore assigned personnel. Table C summarizes the results. Note that the training hours reflect an addition of one hour of formal squadron training/week to the average "school" training value determined above. No time was included for OJT or informal squadron training due to the difficulty of documenting these values.

Table 6: Comparison of Hours Available for Work/Average Week

	OPNAVINST 1000.16E Programmed	Sea Duty Deploying Actual	Sea Duty Non-Deploying Actual	Shore Duty Actual
Scheduled Workweek	40.00	40.00	40.00	40.00
Less: Holiday	1.38	1.38	1.38	1.38
Service				
Diversion	3.00	3.00	3.00	3.00
Leave	1.85	6.73	1.85	1.85
Training	1.83	6.22	3.62	3.95
TOTAL Available Work Time:	31.94	22.67	30.15	29.82
Difference from Programmed Hours		<u>9.27</u>	<u>1.79</u>	<u>2.12</u>

With the actual hours available for work shown in Table 6, it now is possible to determine the actual manhours in the average month. This value is calculated by taking the average number of personnel onboard working in maintenance billets documenting manhours as a multiple. As computed earlier, there are an average minimum of 57.6 nondeploying sea duty personnel in each sample squadron. This figure is reduced by an average of 10 to account for those production rated personnel filling nondocumenting billets in Maintenance/Material Control, Material Control, AIMD support, and the Tool Room (since there are not enough support rated personnel currently assigned). The total daily available manhours is determined in Table 7.

Table 7: Average Daily LAMPS Mk I Production Manhours

RATE	NUMBER OF MEN	WORK RATIO	HOURS PER DAY	TOTAL
AE/AT/AX	Sea Duty Deployed 17.3	0.664	4.53	44.0
	Sea Duty Non-Deployed 6	0.664	6.03	20.3
	Shore Duty 7	0.664	5.96	23.4
AD/AMS/AMH	Sea Duty Deployed 17.3	0.562	4.53	52.0
	Sea Duty Non-Deployed 7	0.562	6.03	28.0
	Shore Duty 3	0.562	5.96	<u>11.9</u>
	57.6			179.6
(Number of men) x (Work ratio) x (Hours/day) = TOTAL				

The totals from Table 7 are added together to reveal a daily documented manhour figure of approximately 180 hours. For the average month, this gives a total manhour figure of 3771.6 manhours. This figure represents only two-thirds that of the programmed manhours of 5523.0. This total manhour figure compares closely with the sample squadron's

average of 3432.4 monthly documented manhours. This analysis alone substantiates this section's theme that the standard Navy workweek prediction figures in OPNAV 1000.16E do not adequately reflect HSL manning needs in the Pacific Fleet.

6. Regression Analysis/Conclusions

The fact that programmed manhours significantly differ from actual manhours is important in manpower planning. If there is a definite relationship between the measure of readiness and training, flight hours, and the production manhours worked, its importance increases as it reflects on squadron battle readiness.

To determine if such a relationship exists, data from the sample squadrons 3-M summaries (see Appendix B) were analyzed using the statistical procedure of multivariate regression analysis. After various combinations of the data were compared, a mathematical model was developed as the best flight hour predicting equation available. The factors that have the most significant effect on flight hours are aircraft operational ready hours (R), and manhours worked (M). The factors are related to flight hours (F) by the equation:

$$F = 0.0273 M + 51.8112 \ln R - 352.9361$$

This equation is a fairly accurate description of the relationship of the data variables. The correlation coefficient (r) is 0.91, indicating a high correlation of the factors R, M, and F. The coefficient of determination (r^2) is 0.83, and describes how much of the variation in flight hours is explained by variations in manhours, and operational ready hours. This means that all but 17 percent of the variation in flight hours is explained by changes either in manhours, or in operational ready hours.

The model determined by the regression analysis can be used to predict average monthly flight hours from a given set of manhours and operational ready hours. The flight hours may not be an exact value because other factors account for 17 percent of the flight hour variations in the data which determined the model. This can be corrected by various statistical techniques. Additionally, probability confidence intervals of 50 and 90 percent can be predicted for each set of operational manhours. Using the model and statistics for confidence intervals, Table 8 presents representative sets of production manhours and operational ready hours used to calculate projected flight hours.

Table 8: Predicted HSL Flight Hour Requirements*

Manhours	Op Ready Hours	Expected Flight Hours	50% Interval	90% Interval
3432	1649	125	104 - 146	71 - 179
3772	1649	135	114 - 156	81 - 189
3771	3000	166	145 - 187	112 - 219
5523	1649	182	161 - 203	129 - 236
5523	3000	214	193 - 235	160 - 268

*This Table shows the relationship between production manhours and mission capable (operational ready) hours. The flight hours from a month in which 3432 manhours are worked and 1649 op ready hours exist will fall between 104 and 146 hours 50 percent of the time, etc. The middle of the range is 125 flight hours.

The predicted flight hours are all much less than the average 238 flight hours needed to meet Pacific Fleet HSL squadron readiness goals. With the maximum operational ready hours experienced by the squadrons, and the OPNAV 1000.16E manhours of 5523, HSL squadrons have approximately 25 percent probability of meeting flight time goals.

The following conclusions can be drawn from the analysis. The production manhours that presently are programmed to work will not provide a reasonable probability of achieving the at-home flight goal if operational ready hours remain at their historical levels. Both the Manual of Navy Officer and Enlisted Manpower Policies and Procedures, and the sample squadron's manning documents (SQMDs) program hours greater than actual squadrons' experiences. Training and leave account for much more time than projected, thus reducing the actual time available for work. Additionally, the relationship between manhours worked to support flight hours is presented erroneously in the CNO (OP-124F) instruction which states: "it is 'documented' that as flight hours increase, manhours per flight hour decreases."

This analysis tends to disprove this claim. While the statement approaches truth as flights become longer (increasing flight hours), it does not represent fact as the numbers of sorties increase (increasing flight hour totals) thus requiring greater numbers of production personnel manhours to service the helicopters after each flight. Both linear and exponential regression analyses were performed on the flight hour and work hour data. The linear regression line had a better "fit" on the data scattergram than did the exponential line. Thus, the linear proved to be a better predictor. This was true especially when the natural logarithm of the operational ready hours was used as a third variable, and a multivariate regression analysis was performed.

The model employed in the regression analysis is sufficiently accurate to provide expected flight hours from given production manhours and operational ready hours. It concludes that under current manning

procedures and operational readiness requirements, the sample squadrons could expect to achieve the monthly flight hour objectives only 25 percent of the time.

Two recommendations are evident from this analysis. One change could be to increase the number of production personnel assigned, thus increasing the manhours available in an average month. Statistically, the greater the manpower component, the higher the probability of meeting flight time goals exists (even as operational readiness hours increase). While mathematically sound, this proposal does not consider the technical manpower shortage of today's Navy.

The other alternative would be to restructure SQMD procedures to meet the needs of the nonconventional HSL squadron, or to revamp flight hour goal requirements to make them more realistic and obtainable.

This first analysis does not intend to recommend detailed solutions for this problem area. However, it does serve to illustrate mathematically that current policies of manning do not provide the necessary HSL manpower levels to achieve desired states of operational readiness and battle efficiency.

As previously stated, between 1979 and 1981, manning levels in HSL squadrons have been on the increase. This has been the direct result of anticipating the introduction of the future LAMPS Mk III squadron, and not the result of a change in manning methodology. A second analysis was conducted employing 3-M summary data from HSLs 33, and 35, after the introduction of the "overmanning" situation. The initial results show overwhelmingly that the addition of production manpower has greatly improved the squadrons' operational and support capabilities. The regression analysis of the current (1980-1981)

operational, manhour, and flight hours resulted in a poor correlation ($r = 0.67$ for HSL 35, and $r = 0.50$ for HSL 33) between these variables.

In dealing with statistical analysis, it must be recognized that correlation does not equate necessarily to causation. However, as was suggested in earlier recommendations, one possible interpretation of this new analysis is that with the increased manpower, manhours and operational ready hours no longer serve as limiting factors to flight hours. This result adds credence to the theory suggested by the earlier analysis, and therefore serves as one more argument demonstrating the imperfections of the conventional squadron manpower model.

IV. ALTERNATIVE SQUADRON ORGANIZATION: THE LAMPS MK III

CENTRAL MAINTENANCE SQUADRON

A. INTRODUCTION

Chapters I, II, and III have discussed the issues necessitating LAMPS squadron redesign. Additionally, data has been presented to support the claim that the HSL, or LAMPS, air community is a unique naval organization which requires special organizational considerations to achieve optimal levels of fleet operational readiness and combat effectiveness. The next three chapters propose alternative organizational structures specifically designed to maximize contained manpower assets while achieving the desired states of operational preparedness.

B. DEFICIENCIES IN THE PROPOSED LAMPS MK III SQUADRON ORGANIZATION STRUCTURE

The introduction of the new LAMPS system will require an additional 2352 personnel to staff and maintain the squadrons and their aircraft assets. Table 9 exhibits the proposed introduction calendar of fleet LAMPS Mk III air squadrons. Although no organization structure presently exists to fully support this introduction, initial squadrons will start being organized in July of FY 82. Appendices C, D, and E, list the preliminary OPNAVINST 1500.8J Billet and Personnel Summaries for the LAMPS Mk III fleet readiness squadron, and the shore and sea components of the operational HSL squadrons.

Close examination reveals that these preliminary LAMPS Mk III manning summaries do not differ significantly from the current LAMPS Mk I Squadron Manning Document (Appendix A). The LAMPS Mk I squadrons

TABLE 9: AIR SUBSYSTEM FLEET INTRODUCTION PLAN

The diagram illustrates the deployment of four HSL units (HSL-41, HSL-43, HSL-42, and HSL-40) from the West Coast to the East Coast across four fiscal years (FY 82 through FY 85). The timeline is marked by vertical dashed lines representing the start of each fiscal year.

- West Coast Deployment:** The West Coast is labeled with a box containing "WEST COAST".
- HSL-41 Deployment:** Deployed in FY 82, arriving at the end of the fiscal year.
- HSL-43 Deployment:** Deployed in FY 83, arriving in early FY 84. It is shown transitioning to the East Coast in FY 84.
- HSL-42 Deployment:** Deployed in FY 84, arriving in late FY 84. It is shown transitioning to the East Coast in FY 85.
- HSL-40 Deployment:** Deployed in FY 85, arriving in early FY 85. It is shown transitioning to the East Coast in FY 85.
- East Coast Deployment:** The East Coast is labeled with a box containing "EAST COAST".
- Activities:** The diagram shows various activities such as "PRE-COMM", "COMM", "PAX", "XFER TO S.D.", "RFT", "ESTABLISH IOC XFER TO DEPLOY", "PRE-COMM", "COMI", and "PRE-COMM" occurring at specific points in time.

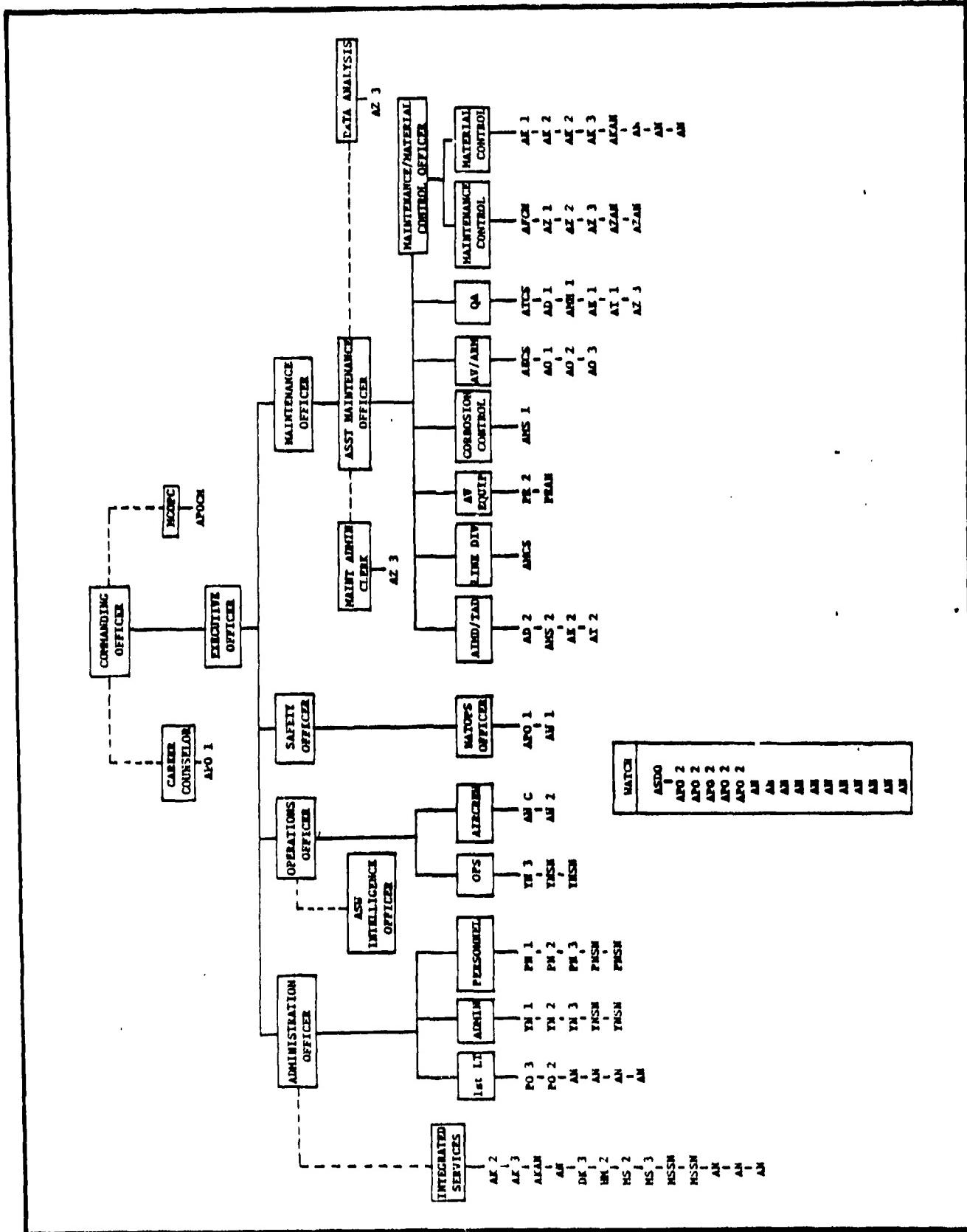
presently maintain an onboard "shore duty" maintenance complement of 50 administrative and production personnel for each 10 assigned SH-2 aircraft. The preliminary manning document for the Mk III squadrons delineates 48 shore duty personnel to support 13 new SH-60B aircraft. In other words, the LAMPS Mk III squadrons will support and maintain three additional helicopters with two less shore maintenance personnel. The obvious equalizing factor will be the additional sea duty maintenance people assigned to support the three additional detachments.

While the addition of the sea duty maintenance people appears to be adequate for at-sea operations, the question remains: What happens to aircraft support when the sea duty work force takes extended pre- and post-deployment leave, or temporarily is assigned refresher training duty and is away from the squadron? The conventional answer is that the reduced shore maintenance staff would attempt to support the additional aircraft to maintain established standards of operational readiness.

Figure 9 graphically presents the current proposed LAMPS Mk III squadron shore component by department. Within this proposed organizational schematic, a number of organizational deficiencies are present. Among them are the following.

1. A formal maintenance check crew is omitted from the structure. The check crew is a body of maintenance personnel that performs pre-flight and postflight system and physical checks on the aircraft to prepare for turn-around or reuse.

2. No formal avionics branch exists in the proposed plan. The avionics division is vital to aircraft mission capability. At present, the nondeployed sea duty avionics technician performs all avionics



duties within the squadron. No guarantee exists that manning needs in this maintenance specialty will be met because of the variables of leave, training, and detachment preparations (workups).

3. The single billet of the line division is inadequate to perform line-handling duties. This especially is true if more than one aircraft is launching or recovering at the same time.

4. The proposed structure lists a total of seven Aviation Maintenance Administrationmen (AZs) in Maintenance Control, Data Analysis, and Maintenance Administration Divisions. This number of AZs is more than is needed. If this organizational structure continues, a better approach would be to redesignate at least four of these billets as a sea component, and use them where their talents are most needed--at sea.

5. The First Lieutenant Division appears to be overmanned in the proposed design. This division is responsible for the physical maintenance, cleanliness, and appearance of squadron work spaces. A team of six enlisted members is, however, a much larger workforce than the job requires. People filling these positions in other than supervisory roles may become stagnant in their career progression. While this design characteristic does not adversely affect the squadron's maintenance effort directly, perhaps a better use of this manpower could be on the line, or in some other mission related endeavor. The recent past witnesses the Navy contracting greater numbers of civilian employees to perform these types of tasks to allow valuable enlisted personnel assets to contribute to mission effectiveness, rather than cleaning or painting. This approach might serve as a viable alternative to this situation.

6. A gross underutilization of manpower is evident in the projected LAMPS Mk III manning design. Reference is made to the 16 billets assigned as enlisted "Assistant Squadron Duty Officers (ASD), Watch Messengers, and Security Watch personnel. No provisions are currently made for these personnel in any work division on the preliminary manning document, yet they are included on the Executive Department's manpower authorization list. The billets for which these members are "assigned" are in other air communities, a duty which is assigned every enlisted member of the squadron so that they might develop in military and leadership watch skills. At the most, this is a technique to assign extra personnel to the HSL squadron(s) where no real manpower need exists.

7. As previously discussed, nondeployed sea duty maintenance personnel supplement the shore maintenance staff to accomplish the maintenance support goals of the squadron. This policy promotes conflict between nondeployed detachment personnel performing real maintenance versus predeployment workup training. In the early stages of a deployment, this situation often leads to a degraded detachment team cohesiveness and coordination.

This chapter is presented in answer to these deficiencies. The alternative organizational structure to be outlined below proposes an unconventional removal of the entire maintenance department from each operational squadron, and reassignment of maintenance personnel in one large central maintenance organization.

C. THE LAMPS MK III CENTRAL MAINTENANCE SQUADRON PROPOSAL

1. Proposal

The proposed central maintenance squadron, shown in Figure 10, would combine the four operational squadrons' maintenance departments, and existing station aviation intermediate maintenance depot (AIMD) and supply depots. This new squadron would perform all maintenance functions on each of the HSL squadrons' aircraft, from line crew/plane captain's handling duties, to airframe, corrosion control, power plant,

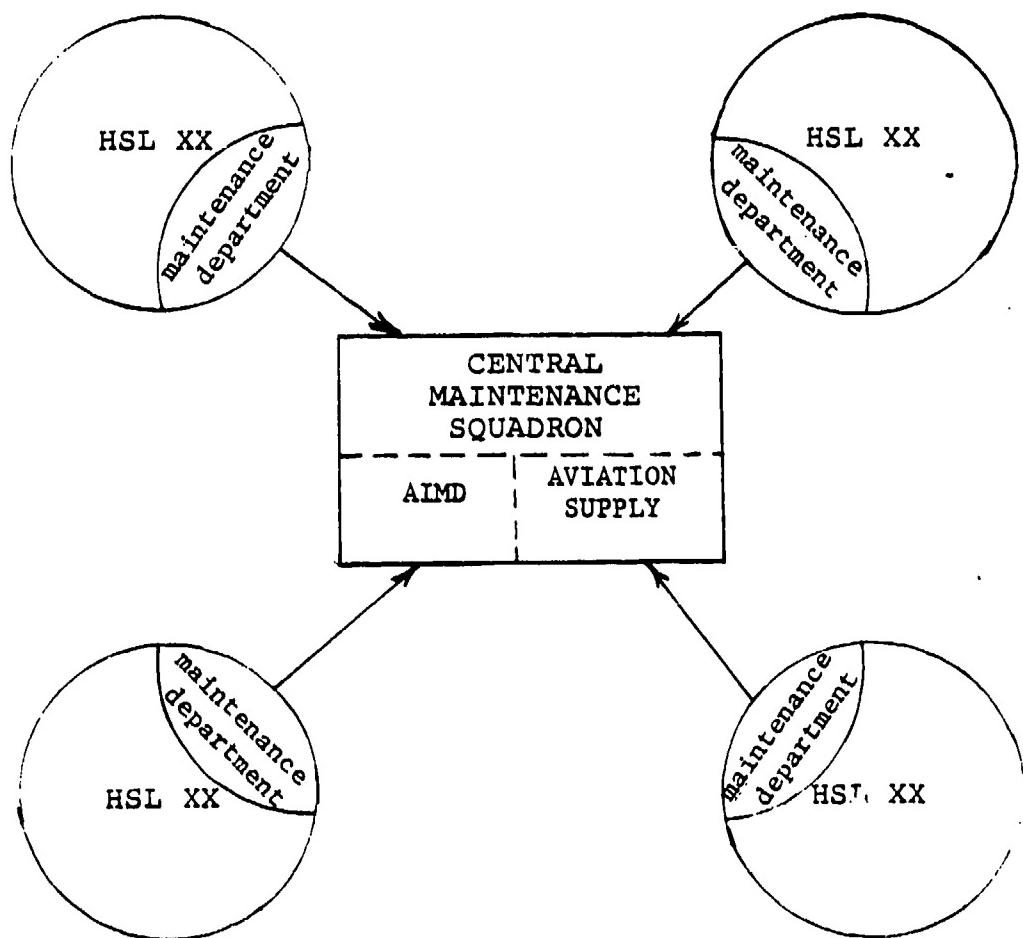


Figure 10: LANT/PAC LAMPS Mk III Central Maintenance Squadron

and avionics maintenance. More specifically, the objectives of the maintenance squadron would include:

- a. Maintenance of all HSL operational aircraft not deployed or in use for detachment form-up. (Detachment form-up will be addressed in Chapter VI.)
- b. Efficient maintenance, management, and issuance of technical libraries to the detachment, as well as provision for expert advise to deploying maintenance teams during form-ups.
- c. A technically unified base for at-home detachment maintenance.
- d. Centralized management of nondeployed aircraft flight and maintenance log books.
- e. Detachment teams with serviced and calibrated ground support equipment, tools, and IMRL test and diagnostic gear for form-ups and deployment.

Upon initial examination, one can see that the central maintenance squadron provides the necessary manpower and organizational division foundation by including only the original "shore duty" assigned personnel. Figure 11 is a schematic presentation of this proposed shore duty component of the maintenance squadron. Each squadron will be assigned 13 SH-60B aircraft. Using the predicted 0.48 deployment ratio, the new maintenance organization will be required to support a minimum of 25 helicopters at any given time. Not displayed in Figure 11 is the non-deployed "sea duty" maintenance component which is in addition to the already impressive array of "shore" maintenance personnel shown.

The 13 detachment crews of 11 maintenance personnel each, multiplied by the 0.48 ratio, results in an "extra" manpower force equating to 69 additional people. Even during those periods of leave and training discussed earlier, this combined workforce is more than sufficient to support expected maintenance requirements.

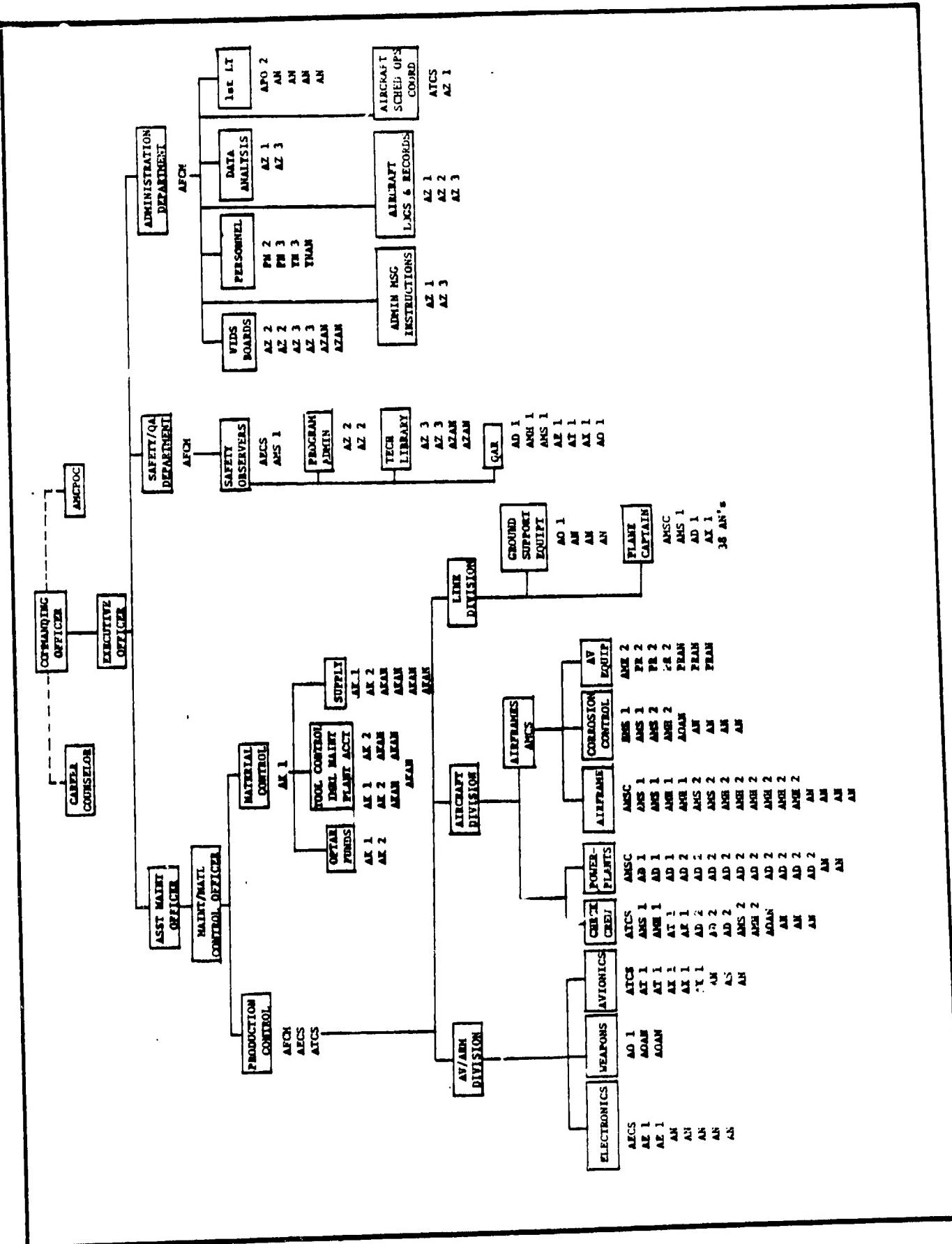


Figure 11: The LAMPS Mk III Maintenance Squadron

2. Relationship of Operational Squadron to the Maintenance Squadron

The operational squadron would remain intact with the exception of all maintenance personnel. The goals and objectives of the squadrons remain unchanged, and would continue administrative and operational control over all aircrews and aircraft. The operations department would task daily flight operations via squadron operations coordinators within the central maintenance squadron. The relationship between the operational squadron and the maintenance of its air assets remains virtually unaltered with the possible exception of realizing higher rates of mission readiness through the expanded maintenance effort.

3. Advantages of the Proposed Central Maintenance Squadron

The proposed central maintenance squadron concept offers unique advantages not afforded to current individual squadron maintenance departments. Among them are the following.

a. The central maintenance squadron would ensure sustained stability within the organization. The sheer magnitude of the maintenance workforce under this proposal guarantees a stable productive maintenance environment. Factors of leave and TAD training will not significantly affect maintenance performance as they presently do in the individual squadrons.

b. Experience levels would be enhanced by forming such a large group of experienced maintenance professionals. Such an atmosphere would promote on the job training of less knowledgeable technicians, and create a positive learning environment for individuals of all rates.

c. Reduction of personnel would result. The maintenance squadron proposal is of a theoretical nature at present, yet there is a strong possibility of operating with fewer than currently required levels of personnel assets. The proposed structure already eliminates many officer and watch billets, and may prove overmanned in several aircraft and line division maintenance work centers. This reduction of personnel could reduce unproductive work hours, and allow the "extra" maintenance specialists to be reassigned where Navy needs may be greater.

d. Improved span of control would occur. Creation of the single maintenance squadron would serve to improve uniformity of maintenance processes and techniques, and reduce current redundancies inherent in separate organizations. Changes in regulations or standards need only be introduced once instead of several times. IMRL, tools, and GSE utilization and control also would be improved, since the tools and equipment would be "pooled" for common employment versus being assigned and maintained within each separate squadron organization. Locating such an organization in close proximity to the AIMD and the aviation supply depot would promote efficiency by reducing the numbers of individual requisition actions and deliveries.

It also would add stability and a sense of ownership for the TAD AIMD workforce. Currently, a technician on temporary assignment with the maintenance depot loses perspective on his/her role in the overall attainment of squadron maintenance objectives. This new concept includes the AIMD as a "team member" for a single maintenance product. Additionally, temporarily assigned personnel would be under the direct jurisdiction and control of their parent command, i.e.,

the maintenance squadron. Currently all evaluations, recommendations, and discipline inputs are all more difficult to manage because of the AIMD "middle man". Everyone benefits from a base manning concept.

e. Maintenance documentation would be improved. The proposed maintenance structure would remove the "competitive" reporting or operational readiness on 3-M summaries between the individual squadrons. More realistic figures would result, and system weaknesses would be discovered. Perhaps the most important facet of the proposal would be the "sharing of the wealth" of maintenance knowledge. This concept would serve to eliminate the different levels of operational readiness between squadrons that now exist, since all aircraft assets would be maintained universally.

f. Detachment readiness would be increased. The maintenance squadron proposal would allow the sea duty detachment units the freedom to form-up and train many months prior to a deployment, thus becoming a maintenance team instead of performing daily maintenance on all squadron assets as the needs arise. Once the detachment team forms and is assigned their detachment aircraft, the "det" would function as though at sea. It would process its own supply requests, document manhours separately, and maintain its own log books--all under the supervision of the maintenance squadron. Additionally, performance qualification standards (PQS) for AZs and AKs would be assisted by the maintenance squadron, and certified by the detachment officer in charge. In this fashion, maximum training benefit could be realized by the detaching maintenance team prior to deployment.

The central maintenance squadron is a bold proposal because it departs from conventional methods and processes. Yet, it is one that warrants consideration in the redesign of the LAMPS Mk III system.

V. ALTERNATIVE SQUADRON ORGANIZATION: THE LAMPS MK III

FLEET READINESS/MAINTENANCE SQUADRON

A. INTRODUCTION

This brief chapter presents an expansion of the central maintenance squadron proposal offered in Chapter IV. The concept will be manifested by a combination of that proposal, and the currently proposed LAMPS Mk III Fleet Readiness Squadron (FRS).

In FY82, two LNMPs Mk III Fleet Readiness Squadrons (one on each U.S. coast) will be established to support the eight new operational squadrons. The mission of the LAMPS FRS will be concerned primarily with aircraft, flight, and tactical training of the HSL aircrew personnel (i.e., pilot, copilot/airborne tactical officer, and AW operator), and technical, mechanical, and electrical training of the sea/shore assigned maintenance support personnel. It is interesting to note the approach of current planning officials in the construction of the HSL shore preliminary manning document (see Appendix C).

The "Proposed Typical Squadron Departmental Organization" contained in OPNAVINST 3120.32A is shown in Figure 12. Attention is called to the fact that HSL squadrons do not require the establishment of a training department within the typical operational squadron. The obvious reasoning for this structural omission is based on a desire to eliminate redundant training billets within each HSL, since the FRS is capable of providing all operational training needs. This organizational precedence is the basis for this section's proposal.

Squadron Types	Department							
	Operations	Administration	Maintenance	Safety	Training	F ramp	Other	
VA (L)	X	X	X	X				
VA (L) (FRS)	X	X	X	X	X	X		
VA (M)	X	X	X	X				
VA (M) (FRS)	X	X	X	X	X	X		
VAW	X	X	X	X				
VAW (FRS)	X	X	X	X	X	X		
VAQ	X	X	X	X			1	
VAQ (FRS)	X	X	X	X	X	X	1	
VC	X	X	X	X				
VF	X	X	X	X				
VF (FRS)	X	X	X	X	X	X		
VFP	X	X	X	X	X	X		4
VP	X	X	X	X	X	X		
VP (FRS)	X	X	X	X	X	X		
VQ	X	X	X	X	6		1,5	
VR	X	X	X	X	6			
VRC	X	X	X	X				
VRF	X	X		X			3	
VS	X	X	X	X				
VS (FRS)	X	X	X	X	X	X		
VT		X	X	X	X			
VW	X	X	X	X				
VXE	X	X	X	X			2	
VXN	X	X	X	X			2	
HAL	X	X	X	X				
HM	X	X	X	X				
HM (FRS)	X	X	X	X	X	X		
HC	X	X	X	X	6			
HC (FRS)	X	X	X	X	X	X		
HS	X	X	X	X				
HS (FRS)	X	X	X	X	X	X		
HSL	X	X	X	X				
HSL (FRS)	X	X	X	X	X	X		
HT	X	X	X	X				
RVAH	X	X	X	X				
RVAH (FRS)	X	X	X	X	X	X		

FIGURE 12: Proposed Typical Squadron Departmental Organization

B. PROPOSAL

This chapter's HSL organization redesign proposal addresses the question: If operational training is conducted exclusively within the Fleet Readiness Squadron, why isn't operational maintenance? The proposal incorporates establishment of the central maintenance squadron within the existing Fleet Readiness Squadron's maintenance training division, as pictured in Figure 13. This concept follows much the same rationale outlined in the previous section, yet enjoys additional savings in the areas of increased manpower and aircraft assets.

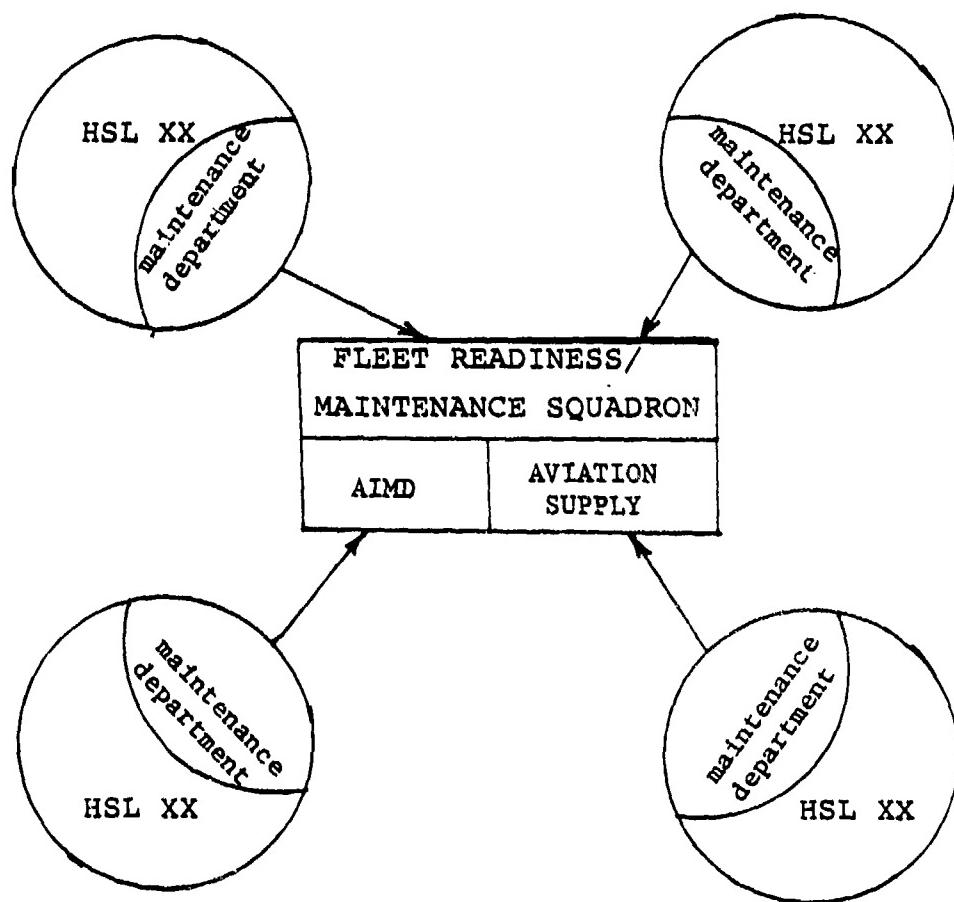


Figure 13: LANT/PAC LAMPS Mk III Fleet Readiness/
Maintenance Squadron Proposal

Figure 14 delineates the proposed organization structure by billet of the FRS Maintenance Training Division combined with that of the central maintenance squadron. The almost overwhelming numbers of maintenance personnel available for maintenance support through this proposal is readily apparent. Note that these billets do not represent nondeployed sea duty maintenance support personnel, or FRS maintenance personnel under training. Although this proposal offers limited manning reductions, manpower studies of this concept--if conducted--may result in added personnel savings.

At present, each Fleet Readiness Squadron is scheduled to receive 17 SH-60B aircraft which will be used in replacement air group (RAG) flight and maintenance training. If implemented, this unique concept could reduce the number of new Seahawks required by the FRS by as much as 40 percent. These aircraft assets would be required to train pilots in flight operations. The maintenance training, however, could be accomplished on actual operational fleet aircraft. This design aspect would provide realistic "on the job" training for student technicians, and introduce them to the tempo of operational maintenance. Although a portion of the actual operational maintenance would be done by the RAG maintenance student, all work would be closely supervised and certified by designated RAG maintenance instructors or quality assurance representatives.

An additional advantage of this proposal is that the experience enriched environment would help create an excellent training atmosphere for student technicians. The reduction of FRS assigned aircraft between the two readiness squadrons could result in a savings of as

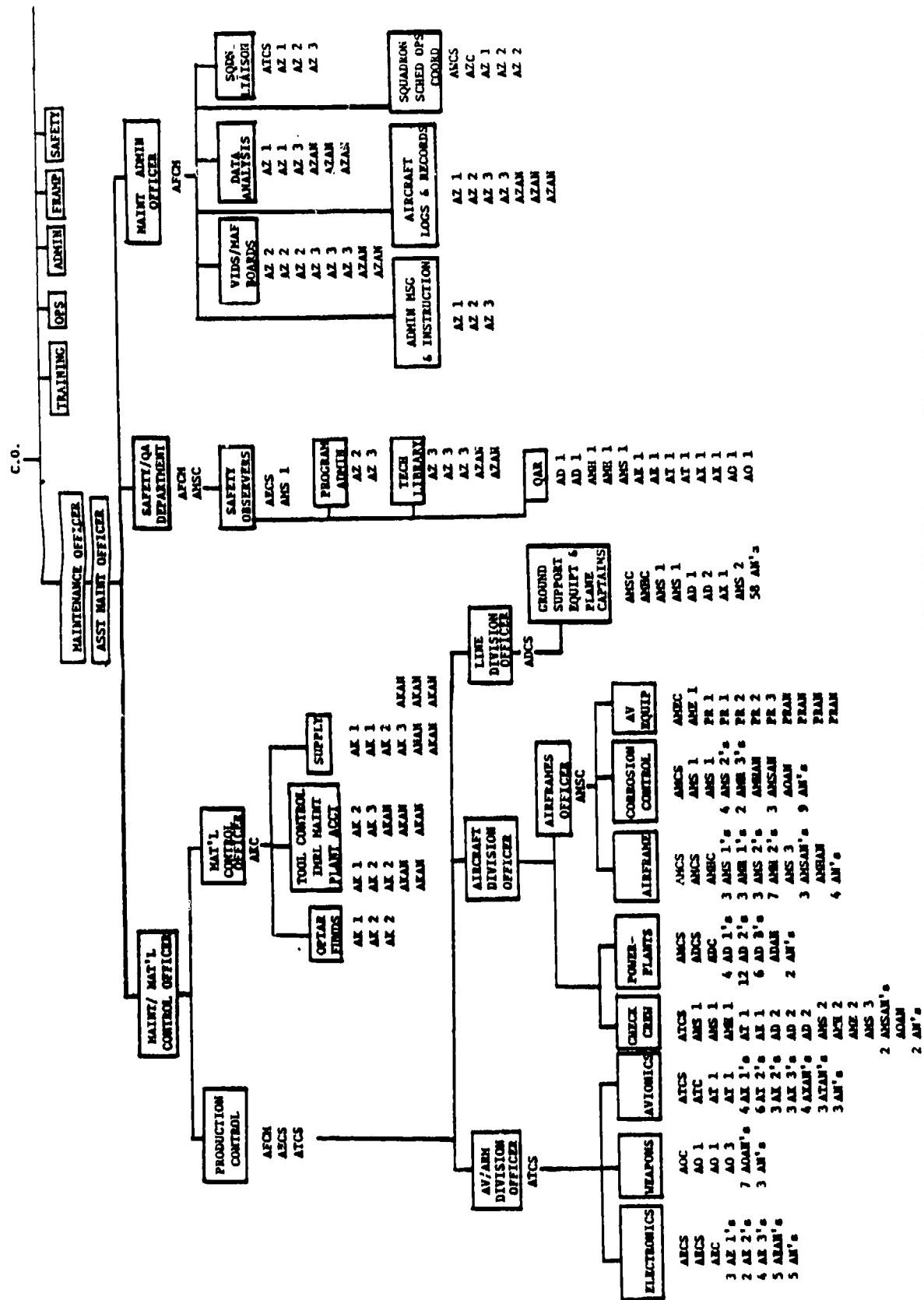


Figure 14: The LAMPS Mk III FRS/Maintenance Squadron

as 11 to 13 aircraft--a number sufficient to establish an additional operational HSL squadron.

The relationship between the operational squadrons and fleet readiness/maintenance squadron would remain the same as outlined in Chapter IV. Each squadron would have a direct representative in the maintenance unit that would perform the duties of liaison and operations coordination. One possible concern regarding these proposals might be that the operational squadrons would lose "control" over the maintenance processing of their particular aircraft assets. This fear should be alleviated by careful examination of the increased ratio of maintenance personnel/aircraft in service under this proposal. Aircraft availability should increase from present mission capable standards, thus shifting the control emphasis from "support" management, to "operational" management.

Both of the maintenance squadron proposals present new and innovative approaches to naval air squadron redesign. Each of the proposals is constructed in such a manner that operational maintenance effectiveness is maximized, while manning requirements are reduced. These concepts are theoretical at present. However, a full analysis of these proposals (which is beyond the scope of this paper) would evaluate the viability of these suggested alternative design solutions.

VI. ALTERNATIVE SQUADRON ORGANIZATION: TEAM MAINTENANCE ORGANIZATION/AUTONOMOUS MAINTENANCE UNIT

A. INTRODUCTION

The proposed alternative squadron organization structures for the LAMPS Mk III weapon system have emphasized the primary aspect of support maintenance in their redesign methodology. The maintenance responsibility is the single most important support duty of the HSL squadron. More men and equipment are dedicated to this support mission than to any other department or task. It seems appropriate, then, to concentrate a redesign effort on that segment which is so vital to the mission of the LAMPS squadron--providing at-sea ASW detachments.

The two previous proposals deviate from tradition and convention to such an extent that while they may appear theoretically practical and organizationally effective, the design concepts may be politically unrealistic. This chapter presents two final design alternatives that are more compatible with conventional naval squadron organization structure. The topics discussed involve specific changes in both management concept and organizational design. They address two inservice adaptive maintenance programs that currently are under development in operational helicopter squadrons. These programs are "Team Maintenance Organization" and the "Autonomous Maintenance Unit".

B. TEAM MAINTENANCE ORGANIZATION

1. Background

Team Maintenance Organization, or TMO, is an innovative management idea introduced by Helicopter Combat Squadron Eleven (HC-11) in

the late 1970s. As with the LAMPS squadrons, HC-11's mission is to supply helicopter support detachments to several fleet surface ships. They also have the same problems associated with training and deploying detachments away from the parent squadron for many months, and meeting the wide variety of support requirements at home. The two major problems, as discussed throughout this paper, are the differences in maintenance production beyond deployed and nondeployed personnel, and the continual disruption of the parent unit's organization as detachments are formed, deployed, or reintegrated into the squadron maintenance department.

It has long been recognized that aircraft availability and the quality of maintenance performed on deployed aircraft are generally superior to those of nondeployed aircraft. Historically in LAMPS and HC squadrons, deployed operationally ready (OR) rates of over 90 percent are not uncommon, while essentially the same production crews, when reinstated into the squadron maintenance department, often are unable to maintain a rate of 40 percent. While some of the differences can be explained by the more readily available source of supply for deployed units, and the longer working hours at sea, it is concluded that a large part of the differences lie in the advantages provided by the "organization" of the deployed detachments.

In case after case, high morale of deployed helicopter detachments has been consistently realized. Deployed air and maintenance crews become extremely close knit "teams" who know "their" aircraft well. Deployed det teams are assigned to the ship, but are separate and distinct units from ship's company both in duties and tasking.

Traditionally, detachment teams pride themselves on the ready status and appearance of their aircraft. It is universally recognized within the LAMPS and HC communities that morale, job satisfaction, and pride in aircraft/mission are heightened while teams are deployed. During dets, major component changes (engines, rotors, hydraulics) and performance tests are often more easily and efficiently accomplished without the encumbrance of coordinating with shops and work centers throughout the squadron. Detachment team maintenance frequently results in more personal attention to the aircraft and equipment.

These statistics and facts gave rise to a need to develop a method which fostered the same detachment morale in the LAMP/HC parent squadron without fragmenting the entire maintenance effort, while at the same time reducing or eliminating the constant turnover of personnel within the squadron as detachments were formed and/or disestablished. The method devised is known as the Team Maintenance Organization.

C. Team Maintenance Organization Proposal

The basic element in team maintenance is the team itself, a nearly self-sufficient unit of 11-13 enlisted maintenance rated personnel headed by a chief petty officer, and three aircrew members. Each team is responsible for the maintenance of "their" helicopter, yet is closely monitored by the squadron's maintenance control and quality assurance divisions. As illustrated in Figure 15, under this proposal the conventional divisions of power plants, airframes, line, etc., work centers are eliminated. However, the quality assurance division is maintained by the squadron. This provides for the highest standards of quality assurance (QA), and for the training of collateral duty quality assurance reps (QARs) for each team, who are designated prior to

deployment. Maintenance administration and material control functions remain centrally organized to support teams, and to provide the needed specialized training for maintenance clerks (aircraft log and records, and manhour/flight hour documentation) and aviation storekeepers.

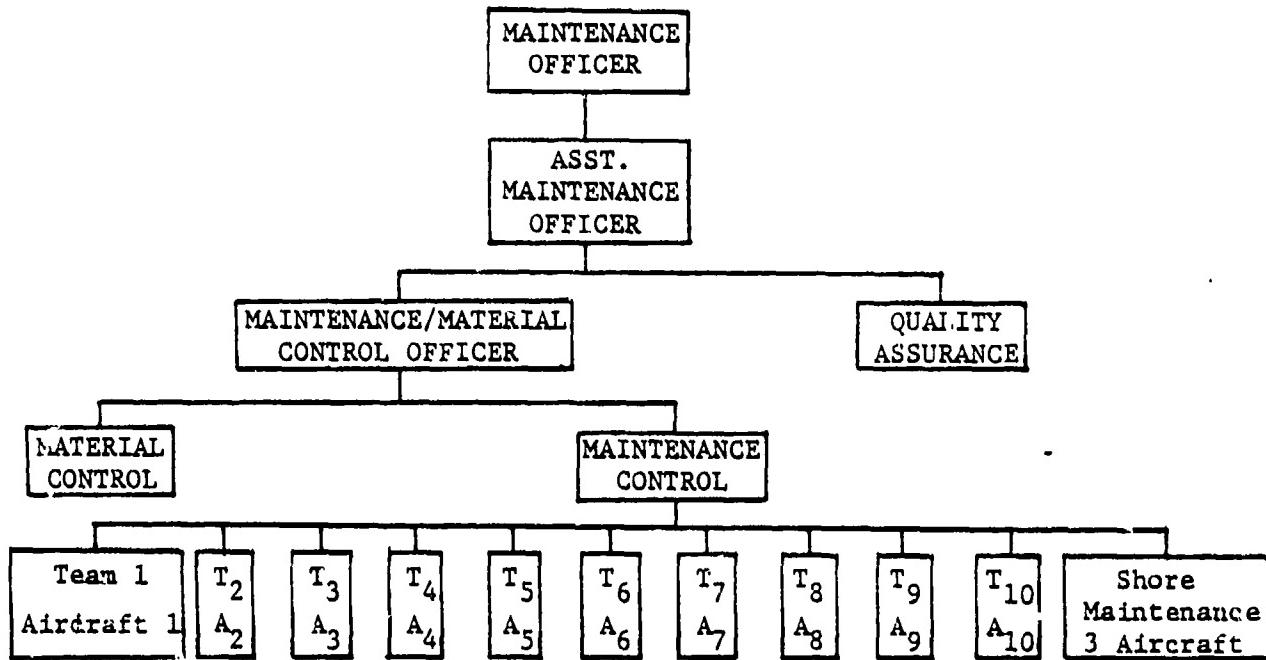


Figure 15: TMO Organization Structure

When deployed, the team becomes the detachment maintenance department with its same assigned helicopter. These aircraft remain with the det team before, during, and after the deployment. This concept allows both the maintenance and aircrews to become thoroughly familiar with the operational idiosyncrasies of a particular helicopter, something that is nearly impossible to do under the conventional air squadron maintenance methodology. With only a few individuals in each racing, the person who begins a job usually finishes it. This reduces

the chance of errors through maintenance "passdown" and, more importantly, allows the responsibility and credit for the work accomplished to be readily assigned and appropriately recognized.

3. Detachment Methodology

Sixty days prior to deployment, the team becomes a "detachment Unit" under an officer-in-charge (usually the senior pilot/mission commander), and is augmented by an aviation storekeeper (AK) and a maintenance administration man (AZ), and is assigned detachment IMRL equipment. From that time on the detachment functions as an individual "mini-squadron" since all phases of scheduling, flying, and maintenance are accomplished solely by the detachment without squadron interference. The team now processes its own messages and paperwork, and also assumes all QA functions. As an independent group, the team experiences a further growth in pride and professionalism, while morale and safety awareness continues to improve. This warm-up period allows for a time a simulated deployed operation prior to actual shipboard reporting.

Althought not recognized as a sanctioned naval aviation organization structure, the TMO concept has been in existance, on a trial basis in HC-11, since late 1978. According to squadron officials, the effect of the TMO on squadron stability and efficiency has been dramatic. Perhaps the most appreciated benefit from this organizational proposal is the relative ease under which detachment teams are formed.

Conventional squadrons not employing TMO often find forming a detachment to be a formidable task, with ramifications throughout the entire squadron which affect each shop organization and the work of

the squadron as a whole. This requires the disassociation of team members from various maintenance work centers and placing on them full maintenance responsibility of an unfamiliar aircraft. The majority of pre-deployment time often is spent organizing the maintenance effort and establishing working relationships, while the remainder of the squadron maintenance department goes about reestablishing lines of authority and assigning replacements for the personnel pulled out for the det.

During deployment, the technicians develop an exceptional team effort as they work together toward the common goal of keeping the aircraft operationally ready. This finely tuned production team effort ceases to exist after termination of the detachment when the technicians are reassigned to the conventional work center organization. The detachment unit's maintenance production expertise is lost. Formation of each new detachment forces "reinventing" the wheel to become operationally competent.

In employing the TMO concept, the det formation creates only minor changes in the maintenance team, and has little or no effect on the other squadron work centers. Under TMO, predeployment time is spent on necessary aircrew training and aircraft support preparations. To make the team maintenance concept feasible, long range planning is essential at all levels. Detachment teams are formed by balancing the talents, experience levels, and qualifications of personnel from the different maintenance ratings. Projected rotation dates (PRD) close to one another are taken into consideration to allow the detachment group to remain together as a team for the longest possible time.

SDLM induction dates for assigned aircraft are coordinated with projected lows in team manpower, and TAD school assignments are integrated

with planned workload requirements. In so doing, deployment schedules can be projected far into the future. This permits team members to make personal plans and arrangements with relative assurance. This aspect alone has helped significantly to improve family relationships and morale under difficult deployment separations. These advantages are even more pronounced on occasions when the inevitable "short notice" or "emergency" detachment is required.

While nondeployed, TMO teams remain intact and are incorporated into the overall maintenance department through maintenance control, which assigns jobs, schedules aircraft for flights, and acts as the hub of the maintenance effort. It should be noted how well the TMO concept could be incorporated into the design of the previously presented central maintenance squadron proposals.

Training normally is accomplished during the at-home cycle, since all teams must be qualified prior to deployment. Peer pressure within the teams to qualify and train new members to serve as plane captains or in other special duties, maintain work spaces, pass periodic QA audits and safety inspections, meet appearance standards, etc., greatly relieves supervisory personnel for the necessary planning and training functions essential for the success of any unit.

Unlike conventional policies, duty and watch sections are based on the team organization, with each team assigned to a duty section as a unit. A team's senior first class petty officer acts as the duty section leader under the supervision of the duty officer, team CPO, and squadron senior watch officer. Squadron staff and administrative personnel are integrated into the watch sections as

needed. Line functions also are handled by the team thereby eliminating the personnel "overhead" of a line division. This activity additionally facilitates the training of new personnel in their ultimate production maintenance functions.

The conventional LAMPS/HC air squadron design maintains a number of shore billets for continuity in maintenance staff, QA, and administrative functions. Under TMO, these staff functions do not change. However, shore assigned maintenance personnel are divided into early and late crews to handle limited night and early morning launch and recovery operations. For planned operations outside normal working hours, and on weekends, the team chief and division officers are responsible for managing manpower assets to cover these contingencies.

The responsibility for workload planning and increased personnel management requirements has been readily accepted at the division officer and CPO level, and provides leadership training for the ultimate assumption of these responsibilities while deployed. Under TMO, the requirement for advanced planning continually is emphasized at the command level so that the burdens are eventually distributed throughout the squadron.

The success of the Team Maintenance Organization concept is demonstrated in above fleet average operational ready rates for both deployed and nondeployed assets. In addition to availability, team maintenance demonstrates many added advantages in increased safety, high morale, low absenteeism, and improved reenlistment rates.

Although specifically designed for commands which regularly deploy, team maintenance is a management system whose principles could

be applied to any air squadron, and one which could easily adapt and support a central maintenance organization.

C. AUTONOMOUS MAINTENANCE UNITS

1. Background

The Autonomous Maintenance Unit (AMU) is a management concept which recently was brought into practice by Helicopter Antisubmarine Squadron Light Thirty Seven (HSL-37). Executive officers of this LAMPS Mk I squadron realized that the conventional squadron maintenance organization which is comprised of separate, single-rated work centers does not efficiently support detachment type maintenance or team training. The Autonomous Maintenance Unit concept delineated in OPNAVINST 4790.2B seems a most viable solution to this organizational shortfall.

2. Concept

The concept of the AMU essentially is the same as that of the TMO, with one major exception. The concept of AMU requires that a conventional squadron's maintenance department be reorganized into multirated production centers (MRPC) which devote their technical expertise to specifically assigned aircraft (see Figure 16). AMU personnel assignments include people who eventually will form into detachments from the assigned maintenance unit. One of the two AMU assigned helicopters becomes the deployment aircraft. The AMU division officer serves as the detachment OIC and maintenance officer. The biggest difference between the two organizational concepts is that both sea and shore personnel components comprise an Autonomous Maintenance Unit/MRPC. As the sea component forms up and deploys,

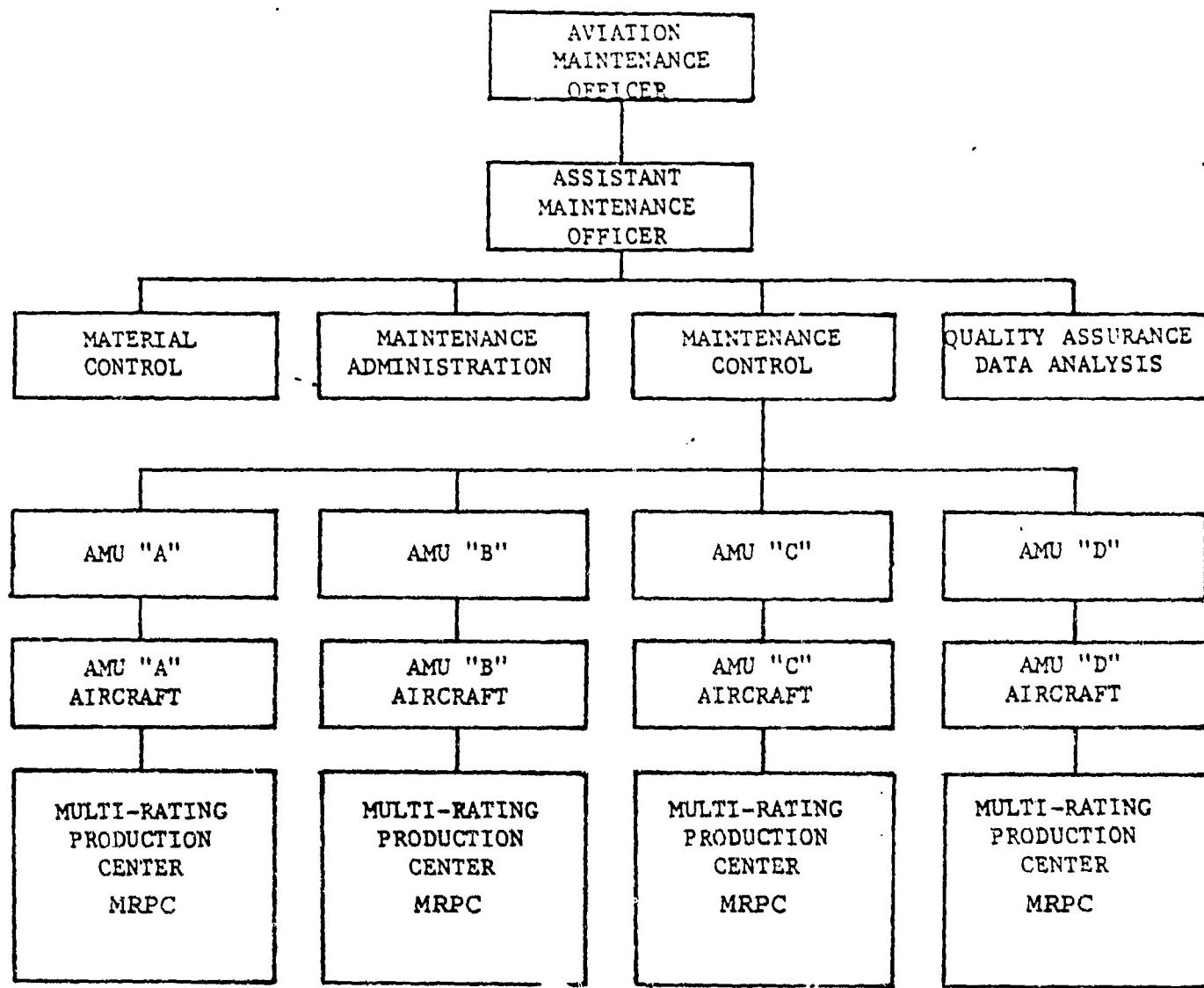


FIGURE 16: AMU Organization Structure

the shore MRPC component remains intact to maintain the other non-deployed aircraft which is used in daily squadron operations. The MRPC, meanwhile, awaits the return of a previously deployed detachment team whose technicians and aircraft rejoin the AMU in support of squadron operations. The AMU will remain in this configuration until their next deployment.

Additional personnel not yet scheduled for a detachment, or who have PCS rotations that preclude another deployment during their squadron tour, are assigned to each production center to supplement the det cadre and provide manning to support the squadron's day/night flight operations.

This adaptation of the Team Maintenance Organization enables the establishment of a maintenance production environment that carries over from one detachment organization to the next, while simultaneously achieving the following goals:

- a. train qualified maintenance teams capable of independently supporting their assigned aircraft before deployment;
- b. provide training stability and focus in each unit prior to detachment formation;
- c. allow long range detachment programming;
- d. produce flexibility in the workforce;
- e. increase the operational capacity of each maintenance unit whether ashore or at sea;
- f. increase aircraft readiness and utilization; and
- g. allow immediate squadron response to at-sea operational commitments (surge force, special operations, etc.).

The Autonomous Maintenance Unit offers one conventional design advantage over the Team Maintenance Organization--span of control.

Under the TMO concept, returning detachments rejoin the squadron and are required to relinquish the individual management of their actions back to the parent command's maintenance control. This sometimes causes friction between det members and the shore support personnel. In addition, as detachment personnel depart on postdeployment leave, their aircraft stands idle for the length of the leave period.

In contrast, the AMU concept offers rejoining maintenance forces with the multirated production center. The MRPC is the liaison agent between the det and maintenance control. Thus the reestablishment of control relations with maintenance control is made easier and less disruptive through the production center. The dilemma of an idle aircraft during leave is not present in the AMU concept, since shore personnel maintain the helicopter until the return of the det technicians.

All other aspects and advantages of the two comparative maintenance proposals are nearly identical. The Autonomous Maintenance Unit and the Team Maintenance Organization proposals offer all the required essentials for supporting the mission of providing fully capable detachments and aircraft ready to operate at sea. To this end these concepts develop unity, pride in ownership, consolidated cross-rate training, and teamwork, whether at home or at sea. The proposals now are available to support readiness goals and operational success in the future.

VII. THE EXPANDING ROLE OF THE NAVAL FLIGHT OFFICER
IN THE LAMPS MK III SYSTEM

A. THE NAVAL FLIGHT OFFICER

1. Background

The officer corps of the U.S. Navy can be categorized into three warfare subspecialties: (1) Surface Warfare Officer, (2) Submarine Warfare Officer, and (3) Aviation Warfare Officer. Responsibility for aviation operations rests with the latter category. This chapter deals with a subset of the aviation warfare community, the Naval Flight Officer (NFO), and the possible expansion of the NFO role into duties with the LAMPS Mk III program.

According to NAVPERS publication 15197 (Unrestricted Line Officers Career Planning Guidebook), the aviation warfare community makes up approximately one-half of the unrestricted line officers in the U.S. Navy. Officers in this community (known also as the 13xx community) have designators beginning with the number 13. The community is made up of: (1) pilots designated either 1310 or 1315 (denoting regular or reserve military status), (2) Naval Flight Officers designated either 1320 or 1325, and (3) Aviation Generalist Officers, designated either 1300 or 1305.

The military pilot's role is clearly evident and is well-defined in self-explanatory terms. It is delineated more specifically in OPNAV Instruction 3710-7J (NATOPS General Flight and Operating Instructions). However, the role of the other primary member of the community, the NFO, is not evident from the title. Further

discussion is warranted concerning the evolution of this non-pilot flying officer.

The increasing complexity of naval aviation's technical hardware, and the rising costs of pilot training were recognized at the General Aviation Conference of 1959. Results of the conference included a recommendation to establish a school to train "back seat" support officers in the handling of sophisticated electronic devices for navigation, early warning, search, attack, and submarine detection. The school was commissioned as the Basic Naval Aviation Officer's School (BNAO), and marked the beginning of the Naval Aviation Observer (NAO) program.

Training was conducted in three phases: (1) pre-flight, (2) basic, and (3) specialized technical schools. Preflight was identical for both NAOs and prospective pilots. The other two phases of the program were specifically designed to train officers as flying crew members in airborne early warning (AEW), fighter (VF), attack (VA), and antisubmarine (VP-VS) aircraft, and for ground jobs in electronics, maintenance, and intelligence fields. Training for this new flying member was accomplished at one-fourth the expense of training a pilot.

The redesignation of Naval Observers to Naval Flight Officers occurred in 1965. In addition, many other major milestones for the 1320 community have been achieved in the recent past. Among them were: (1) the expansion in 1968 of BNAO school to full squadron status as Training Squadron Ten (VT-10), and (2), the addition of a new building housing modern classroom and computer link all-purpose

navigation flight simulation, with additional staff personnel to support the training of over 550 student NFOs.

Training received at NAS Pensacola, Florida in VT-10 prepares Navy and Marine Corps Flight Officers for service in several different aircraft pipelines. These officers choose an aircraft type/mission, and then receive specialized training towards becoming: a Radar Intercept Officer (RIO) for F-4 and F-14 fighter jet aircraft, a Bombardier-Navigator (BN) for A-6/EA6B attack jet aircraft, a Tactical Coordinator/Mission Commander (TACCO) for the S-3 and P-3 jet and turboprop patrol ASW aircraft, or an Airborne Controller (CICO) in the E-2c aircraft.

The NAO program was responsible for two other categories of specialized officers, maintenance and intelligence officers, who have their own training pipelines, and who are no longer included in training at VT-10.

B. NFO EMPLOYMENT IN THE LAMPS MK III PROGRAM

1. LAMPS ASW Methodology

As outlined in Chapter I, the LAMPS Mk III system is an integrated air/ship team. Just as in the P-3 and S-3 missions, the LAMPS Mk III will require a special caliber of ASW expertise to ensure mission success. Mission success is defined as having the ability to interface smoothly as a tactical team to accomplish a particular task in the most advantageous mode of operation/control. The airborne team crew function of primary concern to this chapter is that of the copilot, or Airborne Tactical Officer (ATO).

To examine the role of the ATO, an understanding of the operational ASW setting is necessary. The ASW mission scenario was discussed in Chapter I of this paper. This section briefly expands the earlier operational presentation with emphasis on ASW macro methodology.

Tactical ASW consists of four stages: (1) intelligence, (2) detection, (3) localization, and (4) tracking or attack. The tactical intelligence picture includes information about the number of submarines in each class, the number and range of cruise or ballistic missiles, the number and type of torpedoes, as well as the submarine's speed and endurance, noise levels, sonar and radar capabilities, operating tactics, and special vulnerabilities.

The detection phase is concerned with finding this underwater tactical threat through the use of a wide range of electronic sensors. Once the submarine is detected, localization begins. The objectives of this phase are to identify the threat and pinpoint its position. Following localization, the last stage involves tracking or attack, depending upon whether a peace or wartime situation exists. Criteria for attack are classified and will not be discussed further.

A more detailed presentation of one aspect of the tracking function adequately demonstrates the complexities of the tactical options available. For example, if a contact is lost during the passive tracking phase, one option available (if permitted by local command policies) is the use of active sensors. This decision must be made by a tactical officer whose full attention is directed toward the tactical problem. If the choice is made to use active sensors, the aircraft element of surprise is forfeited, since the enemy

threat becomes aware of its presence. The tactical decision on this option must be reached in a timely manner, since the datum or search area expands in size with elapsed time.

Modern nuclear submarines can decrease the chances of continued tracking success by use of their high speed dash capabilities. In sea based VS and LAMPS ASW modes, prosecution of contacts also is limited by available on-station mission time, usually controlled by fuel constraints and limited sensor resources.

Both correct choices of sensor allocation and timely tactical progression become increasingly important as mission phases progress. Decisionmaking in ASW tactical situations is the process of converting sensor information into actions. As this example illustrates, mission success depends on the quality and timeliness of decisions by the Tactical Airborne Coordinator--an NFO subspecialty in ASW platforms.

2. The NFO as ATO

Examination of the roles of current ASW NFO's in both VS and VP squadrons reveals a remarkable similarity to task requirements of the LAMPS ATO/Copilot. Table 10 depicts the LAMPS Airborne Tactical Officer's functions. Figures 17 and 18 describe the duties of the VP and VS antisubmarine warfare NFOs.

The S-3 NFO program, in particular, has advanced and developed greatly in the past decade. In 1977, a test program was initiated to put a Naval Flight Officer in the copilot's left seat and have him serve as a tactical ASW/nonacoustic sensor operator and safety of flight observer. These NFOs received hands-on flight experience in takeoffs and landings, as well as in emergency flight situation

procedures. The COTAC program has met with much success, and now is employed in every operational VS squadron on the west coast.

Table 10: LAMPS Mk III ATO Airborne Functions

AIRBORNE TACTICAL OFFICER (ATO)

The ATO airborne functions are:

- a. Copilot aircraft
- b. Monitor tactical operations
- c. Direct mission (helo control mode)
- d. Configure communications
- e. Generate fly-to-points (helo control mode)
- f. Monitor ESM equipment
- g. Monitor search radar
- h. Select/deploy buoys (helo control mode)
- i. Designate buoys to be processed
- j. Localize contacts
- k. Track targets (helo control mode)
- l. Select/preset torpedo
- m. Drop torpedo

In 1979-80, these squadrons established manning levels to reflect a 50/50 COTAC/Copilot mix for their tactical aircrews. The VS community recognized early that the talents and abilities of the ASW trained Naval Flight Officer could be employed in the COTAC program and increase overall mission effectiveness while responding to the critical pilot retention problem plaguing today's naval service.

In examining the three lists of ASW roles, it is clear that with the exception of the safety of flight requirements, the functions of the LAMPS Mk III Airborne Tactical Officer could be filled by an NFO (132x). In the opinion of this author, this proposal warrants due consideration in light of the enormous success enjoyed by the S-3 NFO COTAC program. The shipboard S-3's ASW mission role and

TACTICAL COORDINATOR.

The TACCO's function is to employ appropriate tactics and procedures to most effectively carry out the mission of the aircraft and its crew. He will initiate a pre-planned plan of action for all tactical crewmembers and continuously monitor, review and revise the plan as the situation dictates. He will make decisions regarding search and search stores selection and release. He shall ensure the accurate completion, collection and disposition of required magnetic tapes, logs and records.

The deployment of search stores is determined by the TACCO, and is normally accomplished by the computer. The ordnanceman when directed by either the TACCO or the PILOT may select and launch a store either manually from a pre-loaded SLT or PSLT or in the event of complete equipment malfunctions, through the free fall chute. Kill stores are selected in conjunction with the pilot by the TACCO.

The TACCO coordinates the efforts of all tactical crewmembers advising of the possibility of contact as well as informing them of surface traffic, and the spatial sonobuoy distributions. TACCO ensures that proper EMCON condition is maintained.

NAVIGATION/COMMUNICATIONS OFFICER.

It is the responsibility of the navigation/communications officer (NAV/COMM) to maintain an accurate record of present and past positions, to insert navigation fly-to-points, update geographical position, transmit tactical messages as authorized for release by the aircraft commander, set up radio equipment before flight, and maintain a record of the flight. The NAV/COMM is responsible for navigating the aircraft to the specified operational area and transmitting aircraft position reports in accordance with directives promulgated by the operational commander. The NAV/COMM shall provide data link assistance as directed by the TACCO. The NAV/COMM shall also monitor navigation systems in use. The TACCO shall be advised of navigation system failures.

Figure 17: P-3 NFO's Tactical ASW Duties

S-3 COTAC/TACCO ASW Functions:

<u>COTAC</u>	<u>TACCO</u>
1) Act as Copilot/relief pilot	1) Formulates tactical methodology
2) Safety observer	2) Coordinates crew during ASW evolution
3) Navigation	3) Data link control
4) Communications	4) Monitor tactical operations
5) Non-acoustic sensor operator (radar/MAD/ESM)	5) Selects/deploys buoys
6) Relay of tactical non-acoustic info to TACCO for mission implementation	6) Designates buoys to process
	7) Localizes/tracks target
	8) Selects/deploys conventional/nuclear weapons

Figure 18: VS NFO Tactical ASW Roles

operating mode is very similar to that of the proposed LAMPS Mk III, and the NFO-Copilot concept has been painstakingly tested and evaluated in extended operational deployments in the Eastern Pacific and Indian Ocean.

In further support of this proposal, the "relief pilot" concept no longer occupies its once vital position of importance because of the introduction of superior autopilot systems in the SH-60B Seahawk. These advanced autopilot capabilities, combined with a short mission endurance (2 hours), nearly eliminates concern about pilot fatigue. The "safety of flight" requirement, however, is still a significant issue when considering placement of an NFO in the ATO position. The NFO would need to perform as a safety of flight backup.

Yet, if the Navy trains the NFO to fly the aircraft, one of the important cost advantages would disappear, as well as the desire to have a cadre of highly qualified ASW weapon system's operators. Refer again to the successful S-3 COTAC program where NFOs have been trained to perform safety of flight "monitoring" in tactical aircraft.

The ship subsystem position (ATACO) does not involve a safety of flight issue, and the use of a second tour VP or VS TACCO would greatly enhance the capability of the air/ship team concept. The officers assigned to the LAMPS ship subsystem positions described in Chapter I need the ASW expertise obtained by a TACCO in a VP/VS squadron tour to ensure that the combined air/ship system performs as an integrated team. It would be highly desirable for the ATACO to be cross-trained as an ATO.

In addressing this issue, it should be noted that the LAMPS Mk III has many secondary mission roles (e.g., Medevac, Vertrep, SAR, etc.) that do not specifically require an ATO, but might benefit from the services of a copilot. This proposal would utilize NFOs as ATOs in clear daytime operations to form a data basis for more thoroughly evaluating the safety of flight issue. This alternative gives the ATACO the opportunity to relate better to the air subsystem part of the mission during an ASW scenario, thereby increasing his effectiveness to act as the mission's tactical controller while aboard ship.

The safety of flight/NFO-ATO issue is one that should be examined by an appropriate naval air safety agency. This chapter merely concludes that the option to assign an ASW trained Naval Flight Officer as a LAMPS Mk III ATO is one that is viable and could

greatly enhance the overall antisubmarine warfare capabilities and effectiveness of this new weapon system.

VIII. SUMMARY AND RECOMMENDATIONS

A. SUMMARY

The LAMPS Mk III weapon system is an important advance in the U.S. Navy's surface combatant antisubmarine warfare program. It represents a sophisticated growth in technology and change. It coincides with the sharp reduction in the Navy's ability to retain naval aviators and skilled maintenance technicians. The LAMPS Mk III program introduces not only a state of the art ASW platform, but also an opportunity to reorganize and redesign the organization structure and management concept of the conventional naval air squadron.

This study charges that there is an important variable missing from the LAMPS organizational equation, that of stability or unity. The conventional naval organization design is "operational specific". Ships and squadrons that employ this design characteristic rarely experience the physical separation from unit that is the rule, rather than the exception, in the LAMPS community. HSL squadrons operate through several aircraft "detachments" of up to six months per year rather than as a fully-deployed force.

To make this transient squadron organization viable, an unique personnel structure is employed by LAMPS squadrons. This structure consists of both shore and sea duty assigned personnel. Sixty percent of the squadron billets are manned by sea duty officers and enlisted personnel who rotate to and from deployments as their respective detachment ship schedules dictate. This transient characteristic results in a lack of organizational stability and continuity, and

presents unique problems in training, management, and support which are not encountered in any other naval air community. Despite these diverse operating requirements, Navy officials have failed to recognize that the traditional naval squadron organization structure does not adequately support the Light Airborne Multi-Purpose System.

This report presents evidence that the conventional squadron design will not meet the needs of the LAMPS Mk III helicopter squadron when it is introduced into the fleet in FY 1983. Statistical and organizational analyses have been offered in support of this claim. Several alternative organizational proposals and management concepts have been introduced which could remedy the organizational dilemma of inefficiency and duplication of effort experienced by HSL squadrons operating under current design and manpower constraints.

B. RECOMMENDATIONS

1. Background and Conclusions

Most HSL squadrons employ the standard organizational design, but operate as a matrix organization in which personnel assets are shuffled between departments and detachments to meet changing operational and administrative requirements. Alternative proposals outlined in this study offer solutions for redesign of current structure. This introductory analysis recommends that an alternative organization design must be developed if the LAMPS Mk III program is to succeed.

The program calls for the establishment of 10 new helicopter squadrons, and the assignment of over 2,350 men and women to support its missions. This is a delta increase in manpower, and one that will not be feasible under current manning constraints and recruitment

shortages. The only alternative remaining is to create an organization structure that incorporates these limiting factors in its design.

In this regard, it is recommended that a design similar to that outlined in Chapter V be adopted and implemented. The Central Maintenance/Fleet Readiness Squadron is an innovative approach that combines maintenance support and valuable training through its support effort. This concept allows for increased productivity and efficiency by (1) eliminating redundant tasks performed by each individual operational squadron, and (2) reducing the number of personnel required by the creation of a large maintenance workforce. By combining the efforts of each operational squadron's maintenance division, a reduction of four of the five maintenance work centers can be accomplished at a savings of over 50 percent in support personnel.

Additionally, the sheer size of this maintenance division would allow for freedoms and reduced pressures not afforded by conventional maintenance department structures. The colocation of the aircraft intermediate maintenance depot and the aviation supply depot would increase efficiency and productivity by working as team elements of the FRS/CMS. While cost figures were not developed, it is expected that a significant savings of time and money would result from this proposal. An important advantage of the FRS/CMS theory is the saving of millions of dollars in reduced assigned aircraft assets by training maintenance technicians on operational aircraft.

As noted in Chapter VII, naval pilot retention rates are low. The FRS/CMS concept reduces the number of naval aviators required by

assigning aviation maintenance officers in squadron officer billets. These officers are highly trained aviation maintenance professionals whose job is to support naval aviation squadrons as maintenance administrators and department heads

A consideration of this recommendation is that as maintenance officers are assigned key positions of leadership in the central maintenance facility, leadership development opportunities are eliminated for line officers as department heads. This further reduction of the already limited department head positions in HSL squadrons could have definite effects on aviation careers resulting from promotion and command screening.

This proposal is sound in organization and management theory, and should be considered for adoption by the United States Navy. Squadron organizational design historically is entrenched in tradition and embodied in politics, but change is needed before LAMPS Mk III is introduced.

An alternate recommendation is the adoption of the Autonomous Maintenance Unit proposal. While this concept contributes little in the area of personnel and aircraft savings, it does offer a proven increase in maintenance support and mission capability. Since it conforms to conventional squadron design characteristics, it is easier to implement than the central maintenance concept. This proposal has been proven in an actual operational squadron that has realized significant increases in operational readiness, detachment availability-training capability, and personnel satisfaction and retention. This

concept is palatable in that it costs no more to implement than current HSL squadron proposals, yet it contributes much more in terms of mission objectives and effectiveness.

By the 1990s, more than one-third of naval aviation will be organized under similar squadron methodology. This report is provided as a decision aid for the organizational development of the LAMPS Mk III and future detachment based squadrons. Only time, the dictates of necessity, and economic constraints will determine the actual management/organization structure adopted for the future naval aviation squadron.

APPENDIX A

OPNAVINST 5320.233A

AIRCRAFT SQUADRON MANPOWER DOCUMENT



A TEN AIRCRAFT
SH-2F SQUADRON
(HSL)



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, D.C. 20380

IN REPLY REFER TO
OPNAVINST 5320.233A
Op-111C2
DEC 18 1979

OPNAV INSTRUCTION 5320.233A

Subj: Squadron Manpower Document for a Ten Aircraft SH-2F
LAMPS Squadron (HSL)

Ref: (a) OPNAVINST 1000-16D

Encl: (1) Subject document

1. Purpose. To promulgate the Squadron Manpower Document (SQMD) for a fleet RSL squadron and establish its relationship to Manpower Authorizations (MPA) for these squadrons, as well as certain other manpower directives issued by the Chief of Naval Operations (CNO).

2. Cancellation. OPNAVINST 5320.233 and OPNAVINST 5320.234

3. Background

a. CNO is engaged in developing and updating a series of manpower documents for all types of aircraft squadrons, using a methodology which applies selected work study techniques to quantify basic manpower requirements for operations, maintenance, training, support, and administrative functions. These documents, entitled SQMD, display in detail the unconstrained manpower requirements for aircraft squadrons. This manpower is predicated on configuration, computed workload, specified operating profile, and required operational capabilities.

b. Manpower as shown in the SQMD is termed organizational manpower, that is, manpower necessary to perform mission requirements specified in the Required Operational Capabilities (ROC) and Projected Operational Environment (POE) statements.

c. The SQMD serves as the basis for the MPA described by reference (a).

4. Action. Enclosure (1) shall be used for manpower planning. The organization and billet assignment shown in the SQMD are predicated on workload gathered and analyzed in detail by the Naval Manpower and Material Analysis Centers.

OPNAVINST 5320.233A
DEC 18 1979

Actual assignment of personnel continues to be the responsibility of the command.

P. M. HARTINGTON
By direction

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SH-2F LAMPS SQUADRON (HSL)

SQUADRON MANPOWER DOCUMENT

FOREWORD

THIS SQUADRON MANPOWER DOCUMENT WAS DEVELOPED BY THE CHIEF OF NAVAL OPERATIONS TO DELINEATE THE MANPOWER REQUIRED TO PERFORM THE MISSION TASKING CONTAINED IN THE UNIT'S STATEMENT OF REQUIRED OPERATIONAL CAPABILITIES (ROC) AND PROJECTED OPERATIONAL ENVIRONMENT (POE).

SECTION I

MISSION, ROC & POE

FOR

SH-2F LAMPS SQUADRON (HS(L))

**MISSION, ROC & POE: FOR FY 82 MAY BE FOUND IN CNO MSG
171337Z NOV 78 AS MODIFIED BY CNO MSG 211548Z MAR 79.**

SECTION II
MANPOWER SUMMARY

FOR

SH-2F LAMPS SQUADRON (HSL)

MAJOR ORGANIZATIONAL COMPONENT	OFF	ENL	CIV
EXEC DEPT	2	18	0
ADMIN DEPT	1	14	0
OPERATIONS DEPT	1/2*	4/7*	0
SAFETY DEPT	1	3	0
MAINTENANCE DEPT	3	29	0
INTEGRATED SERVICES	0	11	0
AIMD	0	10	0
TOTAL	8/9*	89/92*	0

* HSL-37 ONLY

SECTION III
MANPOWER REQUIREMENTS
FOR
SH-2F LAMPS SQUADRON (HSL)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE			PRI CODE	NOBC HEC	SEC CODE	DS G R F R	F	REQUIRED TO SUPPORT ROC/POE
		SSPEC CODE	SSPEC CODE	SSPEC CODE	PRI CODE	NOBC HEC	SEC CODE	DS G R F R	F	
00010	EXEC DEPT				DV2/M	8670	1311H		001	
00020	SQUADRON CO				DV2/M	8672	1311H		001	
00030	SQUADRON XO						AP0CM		001	
00240	EXEC ASST						P01		001	
00270	CAREER COUNS						AP02		001	
00280	ASDO						AP02		001	
00290	ASDO						AP02		001	
00300	ASDO						AP02		001	
00310	ASDO						AP02		001	
00320	ASDO						AP02		001	
00350	MSGR						AN		001	
00360	MSGR						AN		001	
00370	MSGR						AN		001	
00380	MSGR						AN		001	
00390	MSGR						AN		001	
00410	SECURITY WATCH						AN		001	
00420	SECURITY WATCH						AN		001	
00430	SECURITY WATCH						AN		001	
00440	SECURITY WATCH						AN		001	
00450	SECURITY WATCH						AN		001	
00460	SECURITY WATCH						AN		001	
01000	ADMIN DEPT									
01010	ADMINISTRATIVE								001	
01260	ADMIN SUPVR						YN1		001	
01270	ADMIN CLERK						YN2		001	
01280	ADMIN CLERK						YN3		001	
01290	ADMIN CLERK						YNSN		001	
01300	ADMIN CLERK						YNSN		001	
02000	PERSONNEL OFFICE									
02160	PERS SUPVR								001	
02170	PERS CLERK								001	
02180	PERS CLERK								001	

SECTION III

MANPOWER REQUIREMENTS

FOR

SH-2F LAMPS SQUADRON (HSL)

BILLET SEQ NUMBER	BILLET TITLE	PRI			F			REQUIRED TO SUPPORT ROC/POE
		SSPEC CODE	AQD/U	SEC CODE	DS G RT R	A C		
02190	PERS CLERK						PNSN	001
03000	FIRST LT OFFICE							
03100	HANGAR MAINT SUPVR	P03						001
03180	DEQ MAA	P02						001
03190	DEQ MAA	P02						001
03350	FAC MAINTMAN				AN			001
03360	FAC MAINTMAN				AN			001
04000	OPERATIONS DEPT							
04010	SQUADRON OPS	0044P	DV2/M	8680	13111			001
05000	OPERATIONS OFFICE							
05010	OPS CLERK SUPVR	YH3						001
05020	OPS CLERK	YHSN						001
05030	OPS CLERK	YNSN						001
* 06000	TRAINING DIV							
06070	TRAINING	DV2/M	3290		1311J			001
07760	LSE INSTR				9502	ABH1		001
07770	LSE INSTR				9502	ABH2		001
07780	LSE INSTR				9502	ABH3		001
08000	AIRCREW OFFICE							
08100	AIRCREWMAN SUPVR	7871				AWC		001

* HSL-37 ONLY

SECTION III

**MANPOWER REQUIREMENTS
FOR
SH-2F LAMPS SQUADRON (HSL)**

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	PRI A9D/U	SEC CODE	F DS G RT R			C REQUIRED TO SUPPORT ROC/POE
					F	DS	G	
14000	SAFETY DEPT		DV2/M	8656	13111	001	001	
14010	AV SAFETY				AP01	001	001	
14500	SAFETY PO				AU1	001	001	
14510	HATOPS EVAL				AW1	001	001	
14520	HATOPS EVAL				AW2	001	001	
15000	MAINTENANCE DEPT		DV2/M	8190	13111	001	001	
15010	A/C ORGMNT GEN				1520J	001	001	
15020	A/C ORGMNT GEN-ASST							
16000	MAINT/MIL CTL W/C 026							
16010	A/C ORGMNT/MIL				8176	73400	001	
16050	MAINT/MIL CTL COORD				8375	AFCM	001	
16150	MAINT C. CLERK					AZC	001	
16160	MAINT CTL CLERK					AZ2	001	
16170	MAINT CTL CLERK					AZ3	001	
16180	MAINT CTL CLERK					AZAN	001	
16190	MAINT CTL CLERK					AZAN	001	
17000	MAINT ADMIN W/C 030							
17050	MAINT ADMIN CLERK					AZ2	001	
18000	QUAL ASSURANCE W/C 040							
18050	QA SUPVR					8375	ATCS	001
18060	QA REP					8375	AD1	001
18070	QA REP					8375	AE1	001
18080	QA REP					8375	AMH1	001
18210	QA LIBRN					AZ3	001	

SECTION III

**MANPOWER REQUIREMENTS
FOR
SH-2F LAMPS SQUADRON (HSL)**

BILLET SEQ NUMBER	BILLET TITLE	PRI NOBC SEC CODE			DS G RT R C	F REQUIRED TO SUPPORT ROC/POE
		SPEC CODE	AQD/U	NEC		
19000 MATERIAL CTL W/C 058						
19050	MIL CTL SUPVR					801
19060	MIL CTL CLERK					801
19070	MIL CTL CLERK					801
19080	MIL CTL CLERK					801
19500	TOOL CTL SUPVR					801
19510	TOOL CTL CLERK					801
19520	TOOL CTL CLERK					801
20000 DATA ANALYSIS W/C 066						
20050	DATA ANALYST				6313	AZ1
21000	A/C DIV W/C 100					801
21050	A/C DIV SUPVR				8375	ADCS
25000	AVTR EQUIP BR W/C 138					PR2 PRAN
25050	AVTR EQUIP MAINTMAN SUPVR					801
25060	AVTR EQUIP MAINTMAN					801
27000	PLND MAINT BR W/C 140				8375	AMS 1
27050	PLND MAINT CREW SUPVR					801
29000	AV/ARM DIV W/C 200				8375	AECS
29050	AV/ARM DIV SUPVR					801
35000	ARM BR W/C 230					801
35050	ARM MAINTMAN SUPVR				8375	A01
35060	ARM MAINTMAN				8375	A02
35070	ARM MAINTMAN				8375	A0AN

SECTION III

HANDOVER REQUIREMENTS

FOR CONRADON (well)

SH-2E IMAGE SEARCH (HIST)

BILLET SEQ NUMBER	BILLET TITLE	SPEC CODE	AQD/U	PRI NOBC NEC	SEC CODE	DS G RT R	F A C	REQUIRED TO SUPPORT ROC/POE
37000	LINE DIV M/C 300							
37050	LINE DIV SUPVR							
47000	INTEGRATED SERVICES							
47010	RAPID SUPPLYMAN							
47020	RAPID SUPPLYMAN							
47030	RAPID SUPPLYMAN							
47110	MED TECH							
47160	MESS MGT SPEC							
47170	MESS MGT SPEC							
47460	FOOD SERVICEMAN							
47470	FOOD SERVICEMAN							
47480	FOOD SERVICEMAN							
47760	LAUNDRYMAN							
47770	LAUNDRYMAN							
48000	AIMD							
48010	P/P AIMD REPAIR			6419	AD2			
48020	P/P AIMD REPAIR			6419	AD3			
48200	ELEC/INST AIMD REPAIR			7105	AE2			
48400	HYD AIMD REPAIR				AMH2			
48500	A/F AIMD REPAIR				AMS2			
49100	ELECT AIMD REPAIR				AT2			
49110	ELECT AIMD REPAIR				AT3			
49600	ASW AIMD REPAIR				AX2			
49610	ASW AIMD REPAIR				6526			
49800	SURVL EQUIP AIMD REPAIR				6526			

SECTION V
FUNCTIONAL WORKLOAD
FOR

SH-2F LAMPS SQUADRON (HSL)

FUNCTION	FUNC HOURS	TOTAL HOURS
EXEC DEPT	63.8	639.4
OFFICER MANNING(OW) DIRECTED MANNING(DM)	575.6	
ADMIN DEPT	31.9	188.4
OFFICER MANNING(OW) ADMINISTRATIVE SUPPORT(AS)	148.5	
PERSONNEL OFFICE	136.4	136.4
ADMINISTRATIVE SUPPORT(AS)		
FIRST LT OFFICE	56.4	152.1
DIRECTED MANNING(DM) ADMINISTRATIVE SUPPORT(AS) FACILITIES MAINTENANCE(FM)	31.9 63.8	
OPERATIONS DEPT	31.9	31.9
OFFICER MANNING(OW)		
OPERATIONS OFFICE	60.6	72.0
ADMINISTRATIVE SUPPORT(AS) FACILITIES MAINTENANCE(FM)	11.6	

SECTION V
FUNCTIONAL WORKLOAD
FOR

SH-2F LAMPS SQUADRON (HSL)

FUNCTION	FUNC HOURS	TOTAL HOURS
*TRAINING DIV		
OFFICER MANNING(OW) DIRECTED MANNING(DM)	31.9 95.7	127.6
AIRCREW OFFICE		
DIRECTED MANNING(DM)	31.9	31.9
SAFETY DEPT		
OFFICER MANNING(OW) DIRECTED MANNING(DM)	31.9 95.7	127.6
MAINTENANCE DEPT		
OFFICER MANNING(OW)	63.8	63.8
MAINT/MIL CTL W/C 020		
OFFICER MANNING(OW) DIRECTED MANNING(DM) ADMINISTRATIVE SUPPORT(AS) FACILITIES MAINTENANCE(FM)	31.9 31.9 154.8 9.7	228.3

* HSL-37 ONLY

SECTION V
FUNCTIONAL WORKLOAD
FOR

SH-2F LAMPS SQUADRON (HSI)

FUNCTION	FUNC HOURS	TOTAL HOURS
MANT: ADMIN W/C 030 DIRECTED MANNING(DM)	31.9	31.9
QUAL ASSURANCE W/C 040 DIRECTED MANNING(DM) ADMINISTRATIVE SUPPORT(AS)	127.6 31.9	159.5
MATERIAL CTL W/C 050 DIRECTED MANNING(DM) ADMINISTRATIVE SUPPORT(AS) FACILITIES MAINTENANCE(FM)	15.7 133.2 5.7	237.6
DATA ANALYSIS W/C 060 DIRECTED MANNING(DM)	31.9	31.9
A/C DIV W/C 100 DIRECTED MANNING(DM)	31.9	31.9
AVTR EQUIP BR W/C 130 CORRECTIVE MAINTENANCE(CM) ADMINISTRATIVE SUPPORT(AS)	10.9 42.6	53.5

SECTION V
FUNCTIONAL WORKLOAD
FOR

SH-2F LAMPS SQUADRON (HS(L))

FUNCTION	FUNC HOURS	TOTAL HOURS
FLND MAINT BR W/C 140	18.6	18.6
ADMINISTRATIVE SUPPORT(AS)		
AV/ARM DIV W/C 200	31.9	31.9
DIRECTED MANNING(DM)		
ARM BR W/C 230	3.4	3.4
PREVENTIVE MAINTENANCE(PM)	38.0	38.0
CORRECTIVE MAINTENANCE(CM)	49.7	49.7
ADMINISTRATIVE SUPPORT(AS)	91.1	91.1
LINE DIV W/C 300	31.9	31.9
DIRECTED MANNING(DM)		
INTEGRATED SERVICES	350.9	350.9
DIRECTED MANNING(DM)		
AIMD	319.0	319.0
DIRECTED MANNING(DM)		

SECTION VI (PART 01)
SUMMARY OF OFFICER MANPOWER REQUIREMENTS

		FOR SH-2F LAMPS SQUADRON (HSL)									
		G 0-6	H 0-5	I 0-4 LCDR	J 0-3 LT	K 0-2 LT JC	L 0-1 ENS	M W-4 CWO4	N W-3 CWO3	O W-2 CWO2	TOTAL
DESIG	CAPT										
1311		2	4	1*						6/7*	
1520				1						1	
7340		---	2	---	---	---	0	0	0	1	
TOTAL		0	2	4	1/2*	0	0	0	0	8/9*	

* HSL-37 ONLY

SECTION VI (PART 02)
SUMMARY OF ENLISTED MANPOWER REQUIREMENTS

		FOR SH-2F LAMPS SQUADRON (HSL)									
		FOR SH-2F LAMPS SQUADRON (HSL)									
		FOR SH-2F LAMPS SQUADRON (HSL)									
PRI SEC	NEC	E-9 SCCO	E-8 SCPO	E-7 CPO	E-6 PO1	E-5 PO2	E-4 PO3	DESG STKR	E-3	E-2	TOTAL
ABH	9502	-	-	-	1	1*	1*	-	-	-	3*
RATING TOTAL		0	0	0	1*	1*	1*	0	0	0	3*
AD	6619	-	-	-	1	1	1	-	-	-	2
AD	8375	-	-	-	1	1	1	-	-	-	2
RATING TOTAL		0	0	0	1	1	1	0	0	0	4
AE	7105	-	-	-	1	1	1	-	-	-	1
AE	8375	-	-	-	1	1	1	-	-	-	2
RATING TOTAL		0	0	0	1	1	1	0	0	0	3
AF	8375	-	-	-	0	0	0	-	-	-	1
RATING TOTAL		0	0	0	0	0	0	0	0	0	1
AK	-	-	-	-	1	1	2	1	-	-	7
RATING TOTAL		0	0	0	1	1	2	1	0	0	7

* HSL-37 ONLY

SECTION VI (PART 02)
SUMMARY OF ENLISTED MANPOWER REQUIREMENTS

FOR SH-2F LAMPS SQUADRON (HSL)									
RATING	PRI NEC	SEC NEC	E-9 MCPB	E-8 SCPO	E-7 CPO	E-6 PO1	E-5 PO2	DESC STKR	TOTAL
AH	8375	-	-	-	-	-	-	-	1
RATING TOTAL									1
AMH	8375	-	-	-	-	-	-	-	2
RATING TOTAL									2
AMS	8375	-	-	-	-	-	-	-	1
RATING TOTAL									1
AH	8375	-	-	-	-	-	-	-	21
RATING TOTAL									21
AG	8375	-	-	-	-	-	-	-	3
RATING TOTAL									3

SECTION VI (PART 02)
SUMMARY OF ENLISTED MANPOWER REQUIREMENTS

FOR SH-2F LAMPS SQUADRON (HSL)									
RATING	PRI REC	SEC REC	E-9 MPCPO	E-8 CPO	E-7 CP0	E-6 Po1	E-5 Po2	E-4 Po3	DESG STKRS
APO			1	1	1	1	5	0	7
RATING TOTAL			1	1	1	1	5	0	7
AT	6605	6632				1	1	0	1
AT	6612					1	1	0	1
AT	6375			1	1	1	1	0	1
RATING TOTAL			0	1	1	1	5	0	3
AW	7671			1	1	1	1	0	3
RATING TOTAL			0	1	1	1	5	0	3
AX	6526					2	2	0	2
RATING TOTAL			0	0	0	2	2	0	2
AZ	6313				1	1	2	2	2
RATING TOTAL			0	0	1	1	2	2	2

SECTION VI (PART 02)
SUMMARY OF ENLISTED MANPOWER REQUIREMENTS

FOR
SH-2F LAMPS SQUADRON (HSLS)

RATING	PRI HEC	SEC NEC	E-9 ACP0	E-8 SCP0	E-7 CP0	E-6 PO1	E-5 PO2	DESG STKR	E-3	E-2	TOTAL
HM	8486	0	0	0	0	1	1	0	0	0	2
RATING TOTAL											2
MS											
RATING TOTAL											
PN											
RATING TOTAL											
PO	9588	0	0	0	0	1	1	2	1	1	7
PO											
RATING TOTAL											
PR											
RATING TOTAL											
YN	2516	0	0	0	0	1	1	1	2	4	11
YN											
RATING TOTAL											
ACTIVITY TOTAL		2	4	3	11/12*	26/27*	11/12*	.11	21	0	89/92*

* HSLS-37 ONLY

SECTION VII

SUMMARY OF ORGANIZATIONAL MANPOWER REQUIREMENTS

SUMMARY BY TOTAL BILLETS

SH-2F LAMPS SQUADRON (HSL)

1. ORGANIZATIONAL MANPOWER REQUIREMENTS FOR THIS ACTIVITY ARE:

OFFICER	CPO	OTHER ENLISTED	TOTAL ENLISTED
8/9*	9	80/83*	89/92*

2. GENERAL APPORTIONMENT OF ENLISTED SKILLS ARE AS FOLLOWS:

PETTY OFFICERS	64.04% // 65.22%*
NON-RATED	35.36% / 34.78%*

3. PAY GRADE SUMMARY IS AS FOLLOWS:

E-9	-	2
E-8	-	4
E-7	-	3
E-6	-	11/12*
E-5	-	26/27*
E-4	-	11/12*
E-3	-	32

DESIGNATED STRIKERS - 11

NON-DESIGNATED STRIKERS - 21

* HSL-37 ONLY

SH-2F LAMPS SQUADRON (HSL) SEA COMPONENT

SQUADRON MANPOWER DOCUMENT

SECTION I

MISSION, ROC & POE

FOR

SH-2F LAMPS SQUADRON (HS1) SEA COMPONENT

MISSION, ROC & POE: FOR FY 82 MAY BE FOUND IN CNO MSG
171337Z NOV 78 AS MODIFIED BY CHG MSG 211548Z MAR 79.

SECTION II
MANPOWER SUMMARY
FOR
SH-2F LAMPS SQUADRON (HS(L)) SEA COMPONENT

MAJOR ORGANIZATIONAL COMPONENT OFF ENL CIV

DETACHMENT 40 110 0

SECTION III
MANPOWER REQUIREMENTS
FOR
SH-2F LAMPS SQUADRON (CHSL) SEA COMPONENT

BILLET SEQ NUMBER	DILLET TITLE	SPEC CODE		PRI HOBC	SEC HEC	DS CODE	G RT	R R	A C	F C	REQUIRED TO SUPPORT ROC/POE
		AQD/U									
00000	DETACHMENT			DV2/B	8653					13111	001
00049	OIC AV UNI/DET			DV2/B	8653					13111	001
00050	OIC AV UNI/DET			DV2/B	8653					13111	001
00060	OIC AV UNI/DET			DV2/B	8653					13111	001
00070	OIC AV UNI/DET			DV2/B	8653					13111	001
00080	OIC AV UNI/DET			DV2/B	8653					13111	001
00090	OIC AV UNI/DET			DV2/B	8653					13111	001
00100	OIC AV UNI/DET			DV2/B	8653					13111	001
00110	OIC AV UNI/DET			DV2/B	8653					13111	001
00120	OIC AV UNI/DET			DV2/B	8653					13111	001
00130	OIC AV UNI/DET			DV2/B	8653					13111	001
00200	OPS AV UNI/DET			DV2/B	8653					13111	001
00210	OPS AV UNI/DET			DV2/B	8653					13111	001
00220	OPS AV UNI/DET			DV2/B	8653					13111	001
00230	OPS AV UNI/DET			DV2/B	8653					13111	001
00240	OPS AV UNI/DET			DV2/B	8653					13111	001
00250	OPS AV UNI/DET			DV2/B	8653					13111	001
00260	OPS AV UNI/DET			DV2/B	8653					13111	001
00270	OPS AV UNI/DET			DV2/B	8653					13111	001
00280	OPS AV UNI/DET			DV2/B	8653					13111	001
00290	OPS AV UNI/DET			DV2/B	8653					13111	001
00300	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00310	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00320	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00330	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00340	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00350	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00360	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00370	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00380	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00390	ADMIN AV UNI/DET			DV2/B	8653					1311X	001
00400	MAINT AV UNI/DET			DV2/B	8539					1311X	001
00410	MAINT AV UNI/DET			DV2/B	8539					1311X	001
00420	MAINT AV UNI/DET			DV2/B	8539					1311X	001
00430	MAINT AV UNI/DET			DV2/B	8539					1311X	001
00440	MAINT AV UNI/DET			DV2/B	8539					1311X	001

SECTION III
MANPOWER REQUIREMENTS
FOR
SH-2F LAMPS SQUADRON (HSLS) SEA COMPONENT

BILLET SEQ NUMBER	BILLET TITLE	PRI				REQUIRED TO SUPPORT ROC/POE			
		SSPEC CODE	AQD/U	SEC HEC CODE	JS RT CODE	F A C	SEC HEC CODE	JS RT CODE	F A C
00450	MAINT AV UNIT/DET			DV2/B	8539	1311K			001
00460	MAINT AV UNIT/DET			DV2/B	8539	1311K			001
00470	MAINT AV UNIT/DET			DV2/B	8539	1311K			001
00480	MAINT AV UNIT/DET			DV2/B	8539	1311K			001
00490	MAINT AV UNIT/DET			DV2/B	8539	1311K			001
16050	MAINV/MIL CTL COORD			DV2/B	8539	1311K			001
16060	MAINV/MIL CTL COORD			ADC					001
16070	MAINV/MIL CTL COORD				8375				001
16080	MAINV/MIL CTL COORD				8375				001
16090	MAINV/MIL CTL COORD				8375				001
16100	MAINV/MIL CTL COORD				8375				001
16110	MAINV/MIL CTL COORD				8375				001
16120	MAINV/MIL CTL COORD				8375				001
16130	MAINV/MIL CTL COORD				8375				001
16140	MAINV/MIL CTL COORD				8375				001
22060	P/P MAINTMAN				8375				001
22070	P/P MAINTMAN				8375				001
22080	P/P MAINTMAN				8375				001
22090	P/P MAINTMAN				8375				001
22100	P/P MAINTMAN				8375				001
22110	P/P MAINTMAN				8375				001
22120	P/P MAINTMAN				8375				001
22130	P/P MAINTMAN				8375				001
22140	P/P MAINTMAN				8375				001
22150	P/P MAINTMAN				8375				001
22160	P/P MAINTMAN				8375				001
22170	P/P MAINTMAN				8375				001
22180	P/P MAINTMAN				8375				001
22190	P/P MAINTMAN				8375				001
22200	P/P MAINTMAN				8375				001
22210	P/P MAINTMAN				8375				001
22220	P/P MAINTMAN				8375				001
22230	P/P MAINTMAN				8375				001
22240	P/P MAINTMAN				8375				001
22250	P/P MAINTMAN				8375				001
23060	A/F MAINTMAN				8375				001
23070	A/F MAINTMAN				8375				001

SECTION III			MANPOWER REQUIREMENTS FOR SH-2F LAMPS SQUADRON (HS(L)) SEA COMPONENT						
BILLET SEQ NUMBER	BILLET TITLE		SPEC CODE	PRI NOBC NEC	SEC CODE	DS RT R	G C	F A C	REQUIRED TO SUPPORT ROC/POE
23080	A/F MAINTMAN			8375	AMH2	001			
23090	A/F MAINTMAN			8375	AMH2	001			
23100	A/F MAINTMAN			8375	AMH2	001			
23110	A/F MAINTMAN			8375	AMH2	001			
23120	A/F MAINTMAN			8375	AMH2	001			
23130	A/F MAINTMAN			8375	AMH2	001			
23140	A/F MAINTMAN			8375	AMH3	001			
23150	A/F MAINTMAN			8375	AMH3	001			
23160	A/F MAINTMAN			8375	AMS1	001			
23170	A/F MAINTMAN			8375	AMS2	001			
23180	A/F MAINTMAN			8375	AMS2	001			
23190	A/F MAINTMAN			8375	AMS3	001			
23200	A/F MAINTMAN			8375	AMS3	001			
23210	A/F MAINTMAN			8375	AMS3	001			
23220	A/F MAINTMAN			8375	AMS3	001			
23230	A/F MAINTMAN			8375	AMS3	001			
23240	A/F MAINTMAN			8375	AMS3	001			
23250	A/F MAINTMAN			8375	AMSAH	001			
30060	ELECT MAINTMAN			8375	AT1	001			
30070	ELECT MAINTMAN			8375	AT2	001			
30080	ELECT MAINTMAN			8375	AT2	001			
30090	ELECT MAINTMAN			8375	AT2	001			
30100	ELECT MAINTMAN			8375	AT2	001			
30110	ELECT MAINTMAN			8375	AT3	001			
30120	ELECT MAINTMAN			8375	AT3	001			
30130	ELECT MAINTMAN			8375	AT3	001			
30140	ELECT MAINTMAN			8375	ATAN	001			
30150	ASW MAINTMAN			8375	AX1	001			
30660	ASW MAINTMAN			8375	AX2	001			
30670	ASW MAINTMAN			8375	AX2	001			
30680	ASW MAINTMAN			8375	AX2	001			
30690	ASW MAINTMAN			8375	AX3	001			
30700	ASW MAINTMAN			8375	AX3	001			
30710	ASW MAINTMAN			8375	AX3	001			
30720	ASW MAINTMAN			8375	AX3	001			
30730	ASW MAINTMAN			8375	AX3	001			
30740	ASW MAINTMAN			8375					

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	A&D/U	PRI	NODC	SEC	DS	G	A	F	REQUIRED TO SUPPORT ROC/POE
				H	E	CODE	R	T	R		
30750	ASH MAINTMAN			8375						AXAN	001
34060	ELEC/INST MAINTMAN			8375						AE1	001
34070	ELEC/INST MAINTMAN			8375						AE1	001
34080	ELEC/INST MAINTMAN			8375						AE1	001
34090	ELEC/INST MAINTMAN			8375						AE2	001
34100	ELEC/INST MAINTMAN			8375						AE2	001
34110	ELEC/INST MAINTMAN			8375						AE2	001
34120	ELEC/INST MAINTMAN			8375						AE2	001
34130	ELEC/INST MAINTMAN			8375						AE2	001
34140	ELEC/INST MAINTMAN			8375						AE2	001
34150	ELEC/INST MAINTMAN			8375						AEAN	001
34160	ELEC/INST MAINTMAN			8375						AEAN	001
34170	ELEC/INST MAINTMAN			8375						AEAN	001
34180	ELEC/INST MAINTMAN			8375						AEAN	001
34190	ELEC/INST MAINTMAN			8375						AEAN	001
34200	ELEC/INST MAINTMAN			8375						AEAN	001
34210	ELEC/INST MAINTMAN			8375						AEAN	001
34220	ELEC/INST MAINTMAN			8375						AEAN	001
34230	ELEC/INST MAINTMAN			8375						AEAN	001
34240	ELEC/INST MAINTMAN			8375						AEAN	001
34250	ELEC/INST MAINTMAN			8375						AEAN	001
42050	AIRCREWMAN SUPVR			7871						AW1	001
42060	AIRCREWMAN			7871						AW2	001
42070	AIRCREWMAN			7871						AW2	001
42080	AIRCREWMAN			7871						AW2	001
42090	AIRCREWMAN			7871						AW2	001
42100	AIRCREWMAN			7871						AW2	001
42110	AIRCREWMAN			7871						AW2	001
42120	AIRCREWMAN			7871						AW2	001
42130	AIRCREWMAN			7871						AW2	001
42140	AIRCREWMAN			7871						AW3	001
42150	AIRCREWMAN			7871						AW3	001
42160	AIRCREWMAN			7871						AW3	001
42170	AIRCREWMAN			7871						AW3	001
42180	AIRCREWMAN			7871						AWAN	001
42190	AIRCREWMAN			7871							
42200	AIRCREWMAN			7871							

SECTION III

**MANPOWER REQUIREMENTS
FOR
SH-2F LAMPS SQUADRON (HS(L)) SEA COMPONENT**

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	PRI NOBC NEC	SEC CODE	DS RT	G R	A C	F ----- REQUIRED TO SUPPORT ROC/PQE

42210	AIRCREWMAN	7871						001
42220	AIRCREWMAN	7871						001
42230	AIRCREWMAN	7871						001
42240	AIRCREWMAN	7871						001

SECTION V
FUNCTIONAL WORKLOAD
FOR
SH-2F LAMPS SQUADRON (HSL) SEA COMPONENT

FUNCTION	FUNC HOURS	TOTAL HOURS
DETACHMENT		
OFFICER MANNING (OW)	2520.0	
DIRECTED MANNING (DM)	2866.0	
PREVENTIVE MAINTENANCE (PM)	905.0	
CORRECTIVE MAINTENANCE (CM)	2225.0	
ADMINISTRATIVE SUPPORT (AS)	904.0	
FACILITIES MAINTENANCE (FM)	43.0	
		9463.0

SECTION VI (PART 91)
SUMMARY OF OFFICER MANPOWER REQUIREMENTS

FOR
SH-2F LAMPS SQUADRON (HSL) SEA COMPONENT

DESIG	^G ⁰⁻⁶ ^{CAPT}	^H ⁰⁻⁵ ^{CDR}	^I ⁰⁻⁴ ^{LCDR}	^J ⁰⁻³ ^{LT}	^K ⁰⁻² ^{LTJC}	^L ⁰⁻¹ ^{ENS}	^M ^{W-4} ^{CWO4}	^N ^{W-3} ^{CWO3}	^O ^{W-2} ^{CWO2}	TOTAL
1311	0	0	1	19	20	0	0	0	0	40
TOTAL	0	0	1	19	20	0	0	0	0	40

SECTION VI (PART 02)

SUMMARY OF ENLISTED MANPOWER REQUIREMENTS

FOR

SH-2F LAMPS SQUADRON (HSL) SEA COMPONENT

RATING	PRI NEC	SEC NEC	E-9 NCPO	E-8 SCPO	E-7 CP0	E-6 PO1	E-5 PO2	E-4 PO3	DESG STKR	E-3	E-2	TOTAL
AD	8375	-	-	-	2	3	7	6	10	0	0	22
RATING TOTAL					2	3	7	6	10	0	0	22
AE	8375	-	-	-	2	3	7	6	10	0	0	22
RATING TOTAL					2	3	7	6	10	0	0	22
ARM	8375	-	-	-	2	1	7	2	0	0	0	12
RATING TOTAL					2	1	7	2	0	0	0	12
AMS	8375	-	-	-	2	1	2	6	1	0	0	12
RATING TOTAL					2	1	2	6	1	0	0	12
AT	8375	-	-	-	1	1	4	4	1	0	0	11
RATING TOTAL					1	1	4	4	1	0	0	11
AW	7871	-	-	-	-	-	2	8	4	0	0	20
RATING TOTAL					-	-	2	8	4	0	0	20

SECTION VI (PART 02)
SUMMARY OF ENLISTED MANPOWER REQUIREMENTS

		SH-2F LAMPS SQUADRON (HSL) SEA COMPONENT								
		FOR								
RATING	PRI HEC	SEC HEC	E-8 SCPO	E-7 CP0	E-6 PO1	E-5 PO2	DESG STKR	E-3	E-2	TOTAL
AX	8375	-	-	-	1	1	5	1	0	11
RATING TOTAL		6	0	1	1	3	5	1	0	11
ACTIVITY TOTAL		0	0	10	12	38	21	29	0	118

SECTION VII
SUMMARY OF ORGANIZATIONAL MANPOWER REQUIREMENTS
SUMMARY BY TOTAL BILLETS
SH-2F LAMPS SQUADRON (HS(L)) SEA COMPONENT

1. ORGANIZATIONAL MANPOWER REQUIREMENTS FOR THIS ACTIVITY ARE:

OFFICER	CPO	OTHER ENLISTED	TOTAL ENLISTED
40	10	100	110

2. GENERAL APPORTIONMENT OF ENLISTED SKILLS ARE AS FOLLOWS:

PETTY OFFICERS 73.64 %
NON-RATED 26.36 %

3. PAY GRADE SUMMARY IS AS FOLLOWS:

E-9	-	0	
E-8	-	0	
E-7	-	10	
E-6	-	12	
E-5	-	38	
E-4	-	21	
E-3	-	29	
DESIGNATED STRIKERS	-	29	
NON-DESIGNATED STRIKERS	-	0	

APPENDIX B

REGRESSION ANALYSIS DATA FROM HSL's
34, 33, AND 35 (MANNING LEVEL COMPARISON)

HSL 34 3M SUMMARY DATA

	<u>FLIGHT HOURS</u>	<u>MANHOURS</u>	<u>OP READY HRS</u>	<u>AT HOME AIRCRAFT</u>
APR 77	230	4897	2713	7
MAY 77	217	5352	2688	8
JUN 77	92	3551	1212	4
JUL 77	34	2015	475	4
AUG 77	252	5619	3034	9
SEP 77	109	3117	1626	4
OCT 77	116	2589	1788	4
NOV 77	120	3109	1903	5
DEC 77	110	4021	2545	7
JAN 78	70	2367	837	7
FEB 78	91	2135	2457	5
MAR 78	137	2511	1243	4
APR 78	53	2261	1234	4
MAY 78	57	2574	632	6
JUN 78	153	5968	1581	7
JUL 78	34	2832	445	5

REGRESSION EQUATIONS

	R^2	R	s_e
1. LINEAR (F.m)	0.672	0.820	39.82
2. CURVILINEAR (F.lnM)	0.664	0.815	40.38
3. LINEAR (F.R)	0.689	0.830	38.82
4. CURVILINEAR (F.lnR)	0.633	0.799	42.17
5. TRIVARIATE (F.MR)	0.689	0.830	39.73
* 6. TRIVARIATE (F.MlnR)	0.823	0.907	30.36
7. TRIVARIATE (F.MA)	0.669	0.818	41.52

HSL 33: 3M SUMMARY DATA

	<u>F FLIGHT HOURS</u>	<u>M MANHOURS</u>	<u>R OP READY HRS</u>	<u>AT HOME AIRCRAFT</u>
JAN 80	119	6338	2257	6
FEB 80	123	4623	2631	5.5
MAR 80	153	5704	2733	5
APR 80	163	5301	3175	5
MAY 80	194	6168	2127	5.5
JUN 80	218	5334	2680	7
JUL 80	197	4228	2373	7
AUG 80	170	3784	1872	7
SEP 80	168	4204	2774	5
OCT 80	87	2323	1282	4
NOV 80	122	5113	3105	4
DEC 80	123	4742	1944	6
JAN 81	129	4818	1734	6
FEB 81	93	4459	1974	6
MAR 81	199	5387	2905	5
APR 81	198	6171	1932	5
MAY 81	199	6411	1982	5
JUN 81	225	5392	2124	5

REGRESSION EQUATIONS

	$\frac{r^2}{}$	$\frac{r}{}$	$\frac{s_e}{}$
1. LINEAR (F.M)	0.240	0.490	38.67
2. LINEAR (F.R)	0.057	0.239	43.08
3. CURVILINEAR (F.lnM)	0.248	0.498	38.47
4. CURVILINEAR (F.lnR)	0.087	0.296	42.38
5. TRIVARIATE (F.MR)	0.247	0.496	39.76
6. TRIVARIATE (F.MlnR)	0.251	0.501	39.65
7. TRIVARIATE (F.RlnM)	0.249	0.499	39.69

HSL 35: 3M SUMMARY DATA

	<u>F</u> <u>FLIGHT HOURS</u>	<u>M</u> <u>MANHOURS</u>	<u>R</u> <u>OP READY HRS</u>	<u>AT HOME</u> <u>AIRCRAFT</u>
JAN 80	212	3954	1792	4
FEB 80	123	2866	2163	4
MAR 80	132	2972	1889	4
APR 80	235	6060	1833	5
MAY 80	240	4417	2073	6
JUN 80	302	5412	2124	6
JUL 80	301	5406	2851	6
AUG 80	204	5130	2490	5
SEP 80	239	6016	2127	5
OCT 80	176	5734	2683	5
NOV 80	161	4943	2216	5
DEC 80	150	4943	2141	5
JAN 81	239	5789	2156	6
FEB 81	212	6286	1781	6
MAR 81	277	6214	2828	6
APR 81	245	5694	2652	7
MAY 81	250	5082	3105	7
JUN 81	255	7383	2437	6

REGRESSION EQUATIONS

	<u>r</u> ²	<u>r</u>	<u>s_e</u>
1. LINEAR (F.M)	0.378	0.564	43.41
2. LINEAR (F.R)	0.140	0.374	51.04
3. CURVILINEAR (F.lnM)	0.414	0.643	42.13
4. CURVILINEAR (F.lnR)	0.131	0.362	51.32
5. TRIVARIATE (F.MR)	0.424	0.651	43.15
6. TRIVARIATE (F.MlnR)	0.413	0.643	43.56
7. TRIVARIATE (F.RlnM)	0.451	0.672	42.08

MANNING LEVEL COMPARISON

1978 - 1979

95	sea duty personnel assigned
- <u>72</u>	deploying personnel
23	non-deploying sea duty personnel
+ <u>10</u>	documenting shore duty personnel
33	documenting production personnel

$$(48\% \text{ ashore} \times 72 \text{ deploying}) + (33 \text{ non-deploying}) = \underline{\underline{67.6}}$$

1980 - 1981

103	sea duty personnel assigned
- <u>72</u>	deploying personnel
31	non-deploying sea duty personnel
+ <u>25</u>	documenting shore duty personnel
56	documenting production personnel

$$(48\% \text{ ashore} \times 72 \text{ deploying}) + (56 \text{ non-deploying}) = \underline{\underline{90.6}}$$

Additional production personnel: 23

APPENDIX C

TABLE I. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III
SQUADRON (SHORE COMPONENT)

<u>MAJOR ORGANIZATION COMPONENT</u>	<u>OFF</u>	<u>ENL</u>
EXEC DEPT	2	18
ADMIN DEPT	1	16
OPERATIONS DEPT	2	5
SAFETY DEPT	2	2
MAINTENANCE DEPT	3	31
INTEGRATED SERVICES	0	13
AIMD	0	4
TOTAL	10	89

TABLE I. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III
SQUADRON (SHORE COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQD/U	PRF NOBC NEC	SEC CODE	DS C RT R	F A C	NO. REQUIRED
<u>Executive Dept.</u>								
Squadron C.O.	DV4/H	8670		1311W			001	
Squadron X.O.	DV4/H	8672		1311W			001	
Exec. Asst.				APOCH			001	
Career Couns		9588		AP01			001	
ASDO				AP02			001	
ASDO				AP02			001	
ASDO				AP02			001	
Messenger				AN			001	
Messenger				AN			001	
Messenger				AN			001	
Messenger				AN			001	
Security Watch				AN			001	
Security Watch				AN			001	
Security Watch				AN			001	
Security Watch				AN			001	
Security Watch				AN			001	
Security Watch				AN			001	
<u>Admin Dept.</u>								
Administrative	9036S	DV4/H		2615			1311I	001
Admin Supvr					YN1		YN1	001
Admin Clerk					YN2		YN2	001
Admin Clerk					YN3		YN3	001
Admin Clerk					YNSN		YNSN	001
Adm't. Clerk								001

TABLE I. PRELIMINARY OFNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III
SQUADRON (SHORE COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQN/U	PRI HOBC REC	SEC CODE	DS RT R	G C	A C	F C	NO. REQUIRED
<u>Personnel Office</u>										
Personnel Supvr					PN1					001
Pers Clerk					PN2					001
Pers Clerk					PN3					001
Pers Clerk					PNSN					001
Pers Clerk					PNSN					001
<u>First LT Office</u>										
Hangar Maint Supvr					PO3					001
BEQMAA					PO2					001
BEQ SCTV/Firewatch					AN					001
BEQ SCTV/Firewatch					AN					001
FacMaintman					AN					001
FacMaintman					AN					001
<u>Operations Dept</u>										
Squadron OPS		0044P	DV4/H		B680				13111	001
ASW Intel					9686				1630K	001
<u>Operations Office</u>										
OPS Clerk Supv									YN3	001
OPS Clerk									YNSN	001
OPS Clerk									YNSN	001
<u>Aircrew Office</u>										
Aircrewman Supv									AWC	001
Aircrewman									AW2	001

TABLE I. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III
SQUADRON (SHORE COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SPEC CODE	AQD/U	PRI NOBC	SEC NEC	CODE	DS G RT R	F A C	NO. REQUIRED
<u>Safety Department</u>									
AV Safety	DV4/M	8656				13111			001
NATOPS	DV4/H	8696				1311J			001
Safety P.O.						APO1			001
NATOPS Eval		78XX				AW1			001
<u>Maintenance Department</u>									
A/C Organ Gen	DV4/H	8190				13111			001
A/C Organ Gen Asst		8190				6330J/1520J			001
Maint/MTL CTL W/C 020				8176					001
A/C Organ/MTL						73400			001
Maint/MTL CTL Coord						AFCH/AVCH			001
Maint CTL Clerk						AZ1			001
Maint CTL Clerk						AZ2			001
Maint CTL Clerk						AZ3			001
Maint CTL Clerk						AZAN			001
Maint CTL Clerk						AZAN			001
Maint Admin W/C 030								AZ3	001
Maint Admin Clerk									
<u>Quality Assurance W/C 040</u>									
QA Supvr		83XX				ARCS/AXCS			001
QA Rep		83XX				AD1			001
QA Rep		83XX				AMU1			001
QA Rep		83XX				AE1			001

TABLE I. PRELIMINARY OPNAVINST 1500.1F BILLET AND PERSONNEL SUMMARY FOR SR-60B LAMPS WK III
SQUADRON (SHORE COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQD/U	PRI NOBC NEC	SEC CODE	DS C RT R	A C	NO. REQUIRED
				8JXX	AZ1/AZ1 AZ3	AM1	AM1	
QA Rep								001
QA Librn								001
<u>Material CTL W/C 050</u>								
MTR CTL Supvr								001
MTR CTL Clerk								001
MTR CTL Clerk								001
MTR CTL Clerk								001
Tool Control Supervisor								001
Tool Control Clerk								001
Tool Control Clerk								001
Tool Control Clerk								001
Data Analyst W/C 060								001
Data Analyst								001
A/C Div W/C 100								001
A/C Div Supvr								001
Corrosion Control W/C 121								001
Corrosion Control Supervisor								001
Aviator Equip Branch W/C 130								001
Aviator Equip Maintman Supvr								001
Aviator Equip Maintman								001

TABLE I. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS HK III
SQUADRON (SHORE COMPONENT)

<u>BILLET SEQ NUMBER</u>	<u>BILLET TITLE</u>	<u>SSPEC CODE</u>	<u>AQP/U</u>	<u>PRI NOBC MFC</u>	<u>SEC CODE</u>	<u>DS G RT R</u>	<u>F A C</u>	<u>NO. REQUIRED</u>
	<u>AV/ARM Div W/C 700</u>							
	<u>AV/ARM Div Supvr</u>			81XX				001
	<u>ARM Branch W/C 230</u>							
	<u>ARM Maintman Supvr</u>							
	<u>ARM Maintman</u>							
	<u>ARM Maintman</u>							
	<u>Line Div W/C 350</u>							
	<u>Line Div Supvr</u>			81XX				001
	<u>Integrated Services</u>							
	<u>Rapid Supplyman</u>							
	<u>Rapid Supplyman</u>							
	<u>Rapid Supplyman</u>							
	<u>Rapid Supplyman</u>							
	<u>Rapid Supplyman Disbursing Clk</u>							
	<u>Hed Tech</u>							
	<u>Mess Mgt Spec</u>							
	<u>Mess Mgt Spec</u>							
	<u>Mess Mgt Spec</u>							
	<u>Mess Mgt Spec</u>							
	<u>Food Serviceman</u>							
	<u>Food Serviceman</u>							
	<u>Food Serviceman</u>							

TABLE I. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III
SQUADRON (SHORE COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQP/u	PRI	SPEC CODE	DS	F	NO. REQ'D.
				ROBC NEC	RT R	G	A	C
AIMD				001				
	P/P AIMD Repair			AD2				001
	A/F AIMD Repair				AM52			c01
	Elect Inst AIMD Repair				AE2			001
	Mini-Vast Operator/Repair				AT2/AK2/AQ2			001

APPENDIX D

TABLE IV. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LANTIS HK III SQUADRON
NSL (SEA COMPONENT)

MAJOR ORGANIZATIONAL COMPONENT	OFF	ENL
DETACHMENTS	52	143

TABLE IV. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III SQUADRON
HSL (SEA COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQP/U	PRI NOBC CODE	SAC CODE	DS G RT R	F A C	MO. REQUIRED
<u>Detachment 1</u>								
OIC AV UNT/DET	DV4/B	8653		13111				
Maint AV UNT/DET	DV4/B	8653		1311J				
OPS AV UNT/DET	DV4/B	8539		1311K				
Admin AV UNT/DET	DV4/B	8539		1311K				
Maint/MTL CTL Coord		83XX		ADC				
P/P Maintman		83XX		AD2				
P/P Maintman		83XX		AD3				
Elect Inst Maintman		83XX		AE2				
Elect Inst Maintman		83XX		AE3				
A/F Maintman		81XX		AMH13				
A/F Maintman		83XX		AMH2				
Elect Maintman		83XX		AT1				
ASW Maintman		83XX		AX3				
Aircrmn		78XX		AW2				
Aircrmn		78XX		AW3				
<u>Detachment 2</u>								
OIC AV UNT/DET	DV4/B	8653		13111				
Maint AV UNT/DET	DV4/B	8653		1311J				
OPS AV UNT/DET	DV4/B	8539		1311K				
Admin AV UNT/DET	DV4/B	8539		1311K				
Maint/MTL CTL Coord		83XX		ADC				
P/P Maintman		83XX		AD2				
P/P Maintman		83XX		AD3				
Elect Inst Maintman		83XX		AE2				
Elect Inst Maintman		83XX		AE3				
A/F Maintman		81XX		AMH12				
A/F Maintman		83XX		AMH3				

TABLE IV. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III SQUADRON
HSL (SEA COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPFC CODE	AQP/u	PRI NOBC CODE	SEC CODE	DS G RT R	F A C	NO. REQUIRED
	Elect Maintman			83XX		AT3		1
	ASW Maintman			83XX		AX1		1
	Aircrewman			78XX		AW2		1
	Aircrewman			78XX		AW3		1
<u>Detachment 3</u>								
	OIC AV UNT/DET	DV4/B		8653		1311I		1
	Maint AV UNT/DET	DV4/B		8653		1311J		1
	OPS AV UNT/DET	DV4/B		8539		1311K		1
	Admin AV UNT/DET	DV4/B		8539		1311K		1
	Maint/HITL CTL Coord			83XX		ADC		1
	P/P Maintman			83XX		AD2		1
	P/P Maintman			83XX		AD3		1
	Elect Inst Maintman			83XX		AE2		1
	Elect Inst Maintman			83XX		AE3		1
	A/P Maintman			83XX		AMH3		1
	A/F Maintman			83XX		AMS2		1
	Elect Maintman			83XX		AT1		1
	ASW Maintman			83XX		AX3		1
	Aircrewman			78XX		AW2		1
	Aircrewman			78XX		AW3		1
<u>Detachment 4</u>								
	OIC AV UNT/DET	DV4/B		8653		1311J		1
	Maint AV UNT/DET	DV4/B		8653		1311J		1
	OPS AV UNT/DET	DV4/B		8539		1311K		1
	Admin AV UNT/DET	DV4/B		8539		1311K		1
	Maint/HITL CTL Coord			83XX		AEC		1
	P/P Maintman			83XX		AD1		1

TABLE IV. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS HK III SQUADRON
HSL (SEA COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQP/U	PRI RQBC CODE	SEC CODE	DS G RT R	F A C	NO. REQUIRED
	P/P Maintman			83XX			ADJ	1
	Elect Inst Maintman			83XX			AE2	1
	Elect Inst Maintman			83XX			AE3	1
	A/F Maintman			83XX			AMU2	1
	A/F Maintman			83XX			AMU3	1
	Elect Maintman			83XX			AT3	1
	ASW Maintman			83XX			AX2	1
	Aircrewman			78XX			AW2	1
	Aircrewman			78XX			AW3	1
<u>Attachment 5</u>								
	OIC AV UNT/DET	DV4/B	8653				1311J	1
	Maint AV UNT/DET	DV4/B	8653				1311J	1
	OPS AV UNT/DET	DV4/B	8539				1311K	1
	Adm AV UTR/DET	DV4/B	8539				1311K	1
	Maint/HTL CTL Coord			83XX			AEC	
	P/P Maintman			83XX			AD1	
	P/P Maintman			83XX			AD3	
	Elect Inst Maintman			83XX			AE2	
	Elect Inst Maintman			83XX			AE3	
	A/F Maintman			83XX			AMU3	
	A/F Maintman			83XX			AMU2	
	Elect Maintman			83XX			AT2	
	ASW Maintman			83XX			AX3	
	Aircrewman			78XX			AW2	
	Aircrewman			78XX			AW3	
<u>Attachment 6</u>								
	OIC AV UNT/DET	DV4/B	8653				1311J	1

TABLE IV. PRELIMINARY OPNAVINST 1500.0J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK 111 SQUADRON
HSL (SEA COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AOP/U CODE	PRI	SEC	DS G RT R	F	A	C	NO. REQUIRED
				NOBC CODE	CODE	DS G RT R	F	A	C	
	Maint AV UNT/DET	DV4/B	8653		1311J		1			
	OPS AV UNT/DET	DV4/B	8539		1311K		1			
	Admin AV UNT/DET	DV4/B	8539		1311K		1			
	Maint/HTL CTL Coord			83XX	ATC		1			
	P/P Maintman			83XX	AD2		1			
	P/P Maintman			83XX	AD3		1			
	Elect Inst Maintman			83XX	AE2		1			
	Elect Inst Maintman			83XX	AE3		1			
	A/F Maintman			83XX	AMH3.		1			
	A/F Maintman			83XX	AHS1		1			
	Elect Maintman			83XX	AT3		1			
	ASW Maintman			83XX	AX2		1			
	Aircrewman			78XX	AW1		1			
	Aircrewman			78XX	AW3		1			
	<u>Detachment 7</u>									
	OIC AV UNT/DET	DV4/B	8653		1311J		1			
	Maint AV UNT/DET	DV4/B	8653		1311J		1			
	OPS AV UNT/DET	DV4/B	8539		1311K		1			
	Admin AV UNT/DET	DV4/B	8539		1311K		1			
	Maint/HTL CTL Coord			83XX	ATC		1			
	P/P Maintman			83XX	AD2		1			
	P/P Maintman			83XX	AD3		1			
	Elect Inst Maintman			83XX	AE2		1			
	Elect Inst Maintman			83XX	AE3		1			
	A/F Maintman			83XX	AMH1		1			
	A/F Maintman			83XX	AHS3		1			
	Elect Maintman			83XX	AT3		1			
	ASW Maintman			83XX	AX2		1			
	Aircrewman			78XX	AW1		1			

TABLE IV. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS HK III SQUADRON
HSL (SEA COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQP/u	PRI HOBC CODE	SEC CODE	DS G RT R	F C	RO. REQUIRED
				78XX	AW3	AW3	1	1
<u>Detachment 8</u>								
OIC AV UNT/DET	DV4/B	8653						
Maint AV UNT/DET	DV4/B	8653						
OPS AV UNT/DET	DV4/B	8539						
Adm In AV UNT/DET	DV4/B	8539						
Maint/MTL CTL Coord	83XX							
P/P Maintman	83XX							
P/P Maintman	83XX							
Elect Inst Maintman	83XX							
Elect Inst Maintman	83XX							
A/F Maintman	83XX							
A/F Maintman	83XX							
Elect Maintman	83XX							
ASW Maintman	81XX							
Aircrewman	78XX							
Aircrewman	78XX							
<u>Detachment 9</u>								
OIC AV UNT/DET	DV4/B	8653						
Maint AV UNT/DET	DV4/B	8653						
OPS AV UNT/D'T	DV4/B	8539						
Adm In AV UNT/DET	DV4/B	8539						
Maint/MTL CTL Coord	83XX							
P/P Maintman	83XX							
P/P Maintman	83XX							
Elect Inst Maintman	83XX							
Elect Inst Maintman	83XX							

TABLE IV. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III SQUADRON
USL (SEA COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SPEC CODE	AQP/U	PRI HOBG CODE	SEC CODE	DS RT R	F A C	NO. REQUIRED
	A/F Maintman			83XX		AH12		1
	A/F Maintman			83XX		AMS3		1
	Elect Maintman			83XX		AT1		1
	ASW Maintman			83XX		AX1		1
	Aircrewman			78XX		AW1		1
	Aircrewman			78XX		AW3		1
<u>Detachment 10</u>								
	OIC AV UNT/DET	DV4/B		8653		1311J		1
	Maint AV UNT/DET	DV4/B		8653		1311J		1
	OPS AV UNT/DET	DV4/B		8539		1311K		1
	Admin AV UNT/DET	DV4/B		8539		1311K		1
	Maint/MRL CTL Coord			83XX		AHSC		1
	P/P Maintman			83XX		AD2		1
	P/P Maintman			83XX		AD3		1
	Elect Inst Maintman			83XX		AE1		1
	Elect Inst Maintman			83XX		AE3		1
	A/F Maintman			83XX		AHR3		1
	A/F Maintman			83XX		AMS2		1
	Elect Maintman			83XX		AT2		1
	ASW Maintman			83XX		AX3		1
	Aircrewman			7BX		AW2		1
	Aircrewman			78XX		AW3		1
<u>Detachment 11</u>								
	OIC AV UNT/DET	DV4/B		8653		1311J		1
	Maint AV UNT/DET	DV4/B		8653		1311J		1
	OPS AV UNT/DET	DV4/B		8539		1311K		1
	Admin AV UNT/DET	DV4/B		8539		1311K		1

TABLE IV. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SU-60B LAHPS IN III SQUADRON
NSL (SEA COMPONENT)

TABLE IV. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III SQUADRON
HSL (SEA COMPONENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQP/u	PRI	SPEC CODE	DS	G	F	A	C	NO. REQUIRED
				NOBC CODE	RT R	R	C				
Maint AV UNT/DET	DV4/B	8653			1311J						1
OPS AV UNT/DET	DV4/B	8539			1311K						1
Admin AV UNT/DET	DV4/B	8539			1311K						1
Maint/RFL CTL Coord	8JXX				AXC						1
P/P Maintman	8JXX				AD2						1
P/P Maintman	8JXX				AD3						1
Elect Inst Maintman	8JXX				AE2						1
Elect Inst Maintman	8JXX				AE3						1
A/F Maintman	8JXX				AFH1						1
A/F Maintman	8JXX				AFS3						1
Elect Maintman	8JXX				AT2						1
ASW Maintman	8JXX				AX3						1
Aircrewman	78XX				AW2						1
Aircrewman	78XX				AW3						1

APPENDIX E

TABLE II. PRELIMINARY ORGANICIST 1500.01 BILLER AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS HK III
FLEET READINESS SQUADRON

<u>MAJOR ORGANIZATIONAL COMPONENT</u>	<u>OFF</u>	<u>ENL</u>
EXEC DEPT	4	19
ADMIN DEPT	6	21
OPERATIONS DEPT	30	28
FRAMP DEPT	3	20
SAFETY DEPT	3	3
MAINTENANCE DEPT	8	<u>157</u>
TOTAL	54	248

TABLE II. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS MK III
FLEET READINESS SQUADRON

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AOP/u	PRI	SEC	DS	F	NO.
				NOBC CODE	CODE	C RT R	A RT C	RE REQUIRED
<u>Executive Dept</u>								
Squadron C.O.	DV4/H	8670				1311W		001
Squadron X.O.	DV4/H	8672				1311H		001
NATOPS Model Manager	DV4/H	8696				1311I		001
Flight Surgeon		0045				2102J		001
Exec. Asst.						APOCM		001
Career Couns								
ASDO						9588	AP01	001
ASDO							AP01	001
ASDO							AP01	001
ASDO							AP01	001
Messenger						AN	AP01	001
Messenger						AN	AP01	001
Messenger						AN	AP01	001
Messenger						AN	AP01	001
Messenger						AN	AP01	001
Security Watch						AN	AP01	001
Security Watch						AN	AP01	001
Security Watch						AN	AP01	001
Security Watch						AN	AP01	001
Security Watch						AN	AP01	001
Security Watch						AN	AP01	001
NATOPS Model Manager						78XX	AHC	001
<u>Admin Dept</u>								
Administrative	DV4/H	2615						001
Administrative - Asst	DV4/H	2615						001
Legal Admin Asst		2590						001
Admin Supvr							YNG	001

TABLE II. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (ART I) FOR SH-50B LAMPS MK III.
FLEET READINESS SQUADRON

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	ADD/u	PRI NORC CODE	SEC CODE	DS RT R	C	F A C	NO. REQUIRED
Admin Clerk					YN1				001
Admin Clerk					YN2				001
Admin Clerk					YN3				001
Admin Clerk					YNSN				001
Admin Clerk					YNSN				001
<u>Personnel Office</u>				DV4/M	3965			1311J	001
Pers/MPWR Mgmt				DV4/H	3320			1311J	001
HUMRESMGT						PN1		PN1	001
Pers Supvr						PN3		PN3	001
Pers Clerk						FNSW		FNSW	001
Pers Clerk									001
Pers Clerk									001
<u>First LT Office</u>				DV4/H	9442			1311J	001
Facilities Mgr						PO		PO	001
Hangar Maint Supvr						PO2		PO2	001
BEQ MAA						AN		AN	001
BEQ MAA						AN		AN	001
BEQ SCTY/Fire Watch						AN		AN	001
BEQ SCTY/Fire Watch						AN		AN	001
Fac Maintman						AN		AN	001
Fac Maintman						AN		AN	001
Fac Maintman						AN		AN	001
Fac Maintman									001

TABLE III. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SU-60B LAMPS MK III
FLEET READINESS SQUADRON

<u>BILLET SEQ NUMBER</u>	<u>BILLET TITLE</u>	<u>SSPEC CODE</u>	<u>AQD/U</u>	<u>PRI NOBC CODE</u>	<u>SEC CODE</u>	<u>DS C RT R</u>	<u>F A C</u>	<u>NO. REQUIRED</u>
<u>OPS Dept</u>								
Squadron OPS	0049P	DV4/H	8680	13111	13111	001		
Squadron OPS - Asst		DV4/H	8680	13111	13111	001		
Sqn Flight/Schedule		DV4/H	8674	13111	13111	001		
Sqn Comm		DV4/H	8682	13111	13111	001		
<u>OPS Office</u>								
OPS Clerk Supvr	0044P	DV4/H	3290	13111	13111	001		
OPS Clerk	0044H	DV4/H	3290	13111	13111	001		
OPS Clerk		DV4/H	3217	13111	13111	001		
<u>Training Dept</u>								
Training	0044P	DV4/H	3290	13111	13111	001		
Training - Assst		DV4/H	3290	13111	13111	001		
Trn Pln Avtlight		DV4/H	3219	13111	13111	001		
Trn Pln Avgrnd		DV4/H	3290	13111	13111	001		
Training - Schedules		DV4/H	3290	13111	13111	001		
Training - Syllabus		DV4/H	3290	13111	13111	001		
Trn Pubs & Curri		DV4/H	3298	13111	13111	001		
Training Aids		DV4/H	3293	13111	13111	001		
Train Aids - ISD		DV4/H	3293	13111	13111	001		
Train Aids - ISD - Assst		DV4/H	3293	13111	13111	001		
Train Aids - ISD - Assst		DV4/H	3293	13111	13111	001		
Instn Flightinst		DV4/H	8543	13111	13111	001		
Instn Flightinst		DV4/H	8543	13111	13111	001		
F1 Ins Plt Foa		DV4/H	8593	13111	13111	001		
F1 Ins Plt Foa		DV4/N	8593	13111	13111	001		
F1 Ins Plt Foa		DV4/H	8593	13111	13111	001		

**TABLE II. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SU-60B LAMPS HK III
FLEET READINESS SQUADRON**

TABLE II. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART II) FOR SH-60B LAMPS MK III
FLEET READINESS SQUADRON

BILLET SLQ NUMBER	BILLET TITLE	SSPEC CODE	A&D/U	PRI	NO.			
				NOBC CODE	SEC CODE	DS C RT R	F A C	NO. REQUIRED
Aircrewman				78XX			AW2	001
Aircrewman				78XX			AW2	001
Subject Matter Expert/ISD				78XX			AWC	001
Subject Matter Expert/ISD				78XX			AW1	001
Subject Matter Expert/ISD				78XX			AW2	001
<u>Framp Dept</u>				DV4/H	3219	11111		001
Trn Pln Avgrnd					3290	6380J		001
Training					3965	1000L		001
Pers/Mprg Mgmt - Framp					83XX	APOCS		001
Framp Supvr					83XX	9502	APOC	001
Sched Couns					83XX	9502	APOC	001
Sched Couns					83XX	9502	PN2	001
Pers Supvr						PNSN		001
Pers Clerk						AZ3		001
Tech Librn						YN3		001
ATSS Clerk								
<u>Framp Training</u>								001
P/P Instr					83XX	9502	AD1	001
R/P Instr					83XX	9502	AD2	001
P/P Instr					83XX	9502	AD2	001
Elec/Inst Sys Instr					83XX	9502	AE1	001
Elec/Inst Sys Instr					83XX	9502	AE2	001
Air Frame Sys Instr					83XX	9502	AMS1	001
Lyd Syst Instr					83XX	9502	AMS1	001
Lyd Syst Instr					83XX	9502	AMH2	001
Armament Syst Instr					83XX	9502	AX1	001
Elect Sys Instr					83XX	9502	AT1	001

TABLE II. PRELIMINARY OPERATING 1500.81 BILLET AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS FIVE

TABLE II. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SU-60B LAMPS HK III
FLEET READINESS SQUADRON

BILLET SEQ NUMBER	BILLET TITLE	SPEC CCDE	AQP/U	PRI RHO/C CODE	SEC CODE	DS G RT R	F A C	NO. REQUIRED
<u>Maint Admin W/C 030</u>								
Maint Admin Clerk				AZ1				001
Maint Admin Clerk				AZ2				001
Maint Admin Clerk				AZAN				001
<u>Qual Assurance W/C 040</u>								
A/C that Qual CTL				13111				
QA Supvr				AMCS				001
QA Rep				AMM1				001
QA Rep				AT1				001
QA Rep				AD1				001
QA Rep				AD1				001
QA Rep				AE1				001
QA Rep				AX1				001
QA Rep				AZ3				
QA Librn								
<u>Material CTL W/C 050</u>								
HTL CTL Supvr				AK1				001
HTL CTL Clerk				AK2				001
HTL CTL Clerk				AK3				001
HTL CTL Clerk				AKAN				001
Tool CTL Supvr				AK2				001
Tool CTL Clerk				AN				001
Tool CTL Clerk				AN				001
Tool CTL Clerk				AN				
<u>Data Analysis W/C 060</u>								
Data Analyst				6313				001

TABLE II. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS MK III
FLEET READINESS SQUADRON

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	APD/U	PRI NOBC CODE	SEC CODE	DS G WT R	F A C	NO. REQUIRED
<u>A/C Div W/C 100</u>								
	A/C Quant A/C		DV4/H	8197		1311J		001
	A/C Div Supvr			8JXX		AMCS		001
<u>P/P BR W/C 110</u>								
	P/P Maintman Supvr			8JXX			ADC	001
	P/P Maintman			8JXX			AD1	001
	P/P Maintman			8JXX			AD2	001
	P/P Maintman			8JXX			AD2	001
	P/P Maintman			8JXX			AD2	001
	P/P Maintman			8JXX			AD3	001
	P/P Maintman			8JXX			AD3	001
	P/P Maintman			8JXX			AD3	001
	P/P Maintman			8JXX			AD3	001
	P/P Maintman			8JXX			AD3	001
	P/P Maintman			8JXX			AD3	001
	P/P Maintman			8JXX			AD3	001
	P/P Maintman			8JXX			ADAN	001
	P/P Maintman			8JXX			ADAN	001
	P/P Maintman			8JXX			ADAN	001
	P/P Maintman			8JXX			ADAN	001
	P/P Maintman			8JXX			ADAN	001
	P/P Maintman			8JXX			ADAN	001
<u>A/F BR W/C 120</u>								
	A/F Maintman Supvr			8JXX			AMIC	001
	A/F Maintman			8JXX			AM1	001
	A/F Maintman			8JXX			AM1	001
	A/F Maintman			8JXX			AM12	001
	A/F Maintman			8JXX			AM12	001

TABLE II. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS HK III

FLEET READINESS SQUADRON

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQP/u	PRI	SEC	DS	G	A	F	NO. REQUIRED
				NOBC CODE	RT R CODE	RT K CODE	C	C	C	
A/F Maintman		8JXX		AMS3						001
A/F Maintman		8JXX		AMS3						001
A/F Maintman		8JXX		AMIAN						001
A/F Maintman		8JXX		AMIAN						001
A/F Maintman		8JXX		AMS1						001
A/F Maintman		8JXX		AMS2						001
A/F Maintman		8JXX		AMS2						001
A/F Maintman		8JXX		AMS3						001
A/F Maintman		8JXX		AMS3						001
A/F Maintman		8JXX		AMS3						001
A/F Maintman		8JXX		AMS3						001
A/F Maintman		8JXX		AMSAN						001
A/F Maintman		8JXX		AMSAN						001
A/F Maintman		8JXX		AMSAN						001
A/F Maintman		8JXX		AMSAN						001
A/F Maintman		8JXX		AMSAN						001
A/F Maintman		8JXX		AMSAN						001
A/F Maintman		8JXX		AMSAN						001
A/F Maintman		8JXX		AMSAN						001
<u>CORROS CTL W/C 121</u>										
CORROS CTL Supvr		8JXX		AMS1						001
CORROS CTL Team Mbr		8JXX		AMS3						001
CORROS CTL Team Mbr		8JXX		AMSAN						001
CORROS CTL Team Mbr		8JXX		AMSAN						001
<u>AVTR Equip BR W/C 130</u>										
AVTR Equip Maintman Supvr				PR2						001
AVTR Equip Maintman				PR3						001
AVTR Equip Maintman				PRAN						001
AVTR Equip Maintman				PRAN						001

TABLE II. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS MK III
FLEET READINESS SQUADRON

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQP/U	PRI	SEC	F	NO. REQUIRED
				NORC CODE	RT R	A	
<u>Safety Equip BR W/C 131</u>							
	Safety Equip Maintman Supvr				AME2	001	
	Safety Equip Maintman				AME3	001	
<u>Plnd Maint BR W/C 140</u>							
	Plnd Maint Crew Supvr				AMS1	001	
<u>AV/ARN Div W/C 200</u>							
	A/C Omt AV/WP			8199	6380K	001	
	AV/ARN Div Supvr				AXCS/ATCS	001	
<u>Elect/ASW BR W/C 210</u>							
	Elect/ASW Maintman Supvr			83XX	ATC/AXC	001	
	Elect Maintman			83XX	AX1	001	
	Elect Maintman			83XX	AT2	001	
	Elect Maintman			83XX	AT2	001	
	Elect Maintman			83XX	AT2	001	
	Elect Maintman			83XX	AT3	001	
	Elect Maintman			83XX	AT3	001	
	Elect Maintman			83XX	AT3	001	
	Elect Maintman			83XX	ATAN	001	
	ASW Maintman			83XX	ATAN	001	
	ASW Maintman			83XX	ATAN	001	
	ASW Maintman			83XX	AX2	001	

TABLE II. PRELIMINARY OPNAVINST 1500.6J BILLET AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS MK III
FLEET READINESS SQUADRON

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	AQP/u	PRI	SEC	F	NO.	
				NORC CODE	CODE	DS G RT R	A C	REQUIRED
ASW Maintman		8JXX			AX3		001	
ASW Maintman		8JXX			AX3		001	
ASW Maintman		8JXX			AX3		001	
ASW Maintman		8JXX			AXAN		001	
ASW Maintman		8JXX			AXAN		001	
ASW Maintman		8JXX			AXAN		001	
ASW Maintman		8JXX			AXAN		001	
ASW Maintman		8JXX			AXAN		001	
ASW Maintman		8JXX			AXAN		001	
Elec/Inst BR W/C 220					AEC		001	
Elect/Inst Maintman Supvr		8JXX			AE1		001	
Elect/Inst Maintman		8JXX			AE2		001	
Elect/Inst Maintman		8JXX			AE2		001	
Elect/Inst Maintman		8JXX			AE3		001	
Elect/Inst Maintman		8JXX			AE3		001	
Elect/Inst Maintman		8JXX			AE3		001	
Elect/Inst Maintman		8JXX			AE3		001	
Elect/Inst Maintman		8JXX			AE3		001	
Elect/Inst Maintman		8JXX			AEAN		001	
Elect/Inst Maintman		8JXX			AEAN		001	
Elect/Inst Maintman		8JXX			AEAN		001	
Elect/Inst Maintman		8JXX			AEAN		001	
ARM BR W/C 230					A01		001	
ARM Maintman Supvr					AOAN		001	
ARM Maintman								

**TABLE II. PRELIMINARY QPAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS MK III
FLEET READINESS SQUADRON**

TABLE III. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART I) FOR SH-60B LAMPS MK 111
FLEET READINESS SQUADRON

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	App/U	PRI	SPEC CODE	SMC CODE	DS G RT R	F A C	NO. REQUIRED
				MORC	CORE	RT R	C		
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001
PC				AN	AN	AN	AN	001	001

TABLE III. PRELIMINARY OPERATING 1500 .8J BILLET AND PERSONNEL SUMMARY FOR SH-60B LAMPS MK III
 FLEET READINESS SQUADRON (AIRCRAFT OPERATIONAL DETACHMENT)

<u>MAJOR ORGANIZATIONAL COMPONENT</u>	<u>OFF</u>	<u>ENR.</u>
INTEGRATED SERVICES	0	18
AIMD	<u>0</u>	<u>6</u>
TOTAL	0	24

TABLE III. PRELIMINARY OPNAVINST 1500.8J BILLET AND PERSONNEL SUMMARY (PART 2) FOR SH-60B LAMPS MK III
FLEET READINESS SQUADRON (AIRCRAFT OPERATIONAL DETACHMENT)

BILLET SEQ NUMBER	BILLET TITLE	SSPEC CODE	APD/u	PRI	ROWC	SEC	DS	F	NO. REQUIRED	
					CONE	COME	RT	A		
<u>Integrated Services</u>										
	Rapid Supplyman									
	Rapid Supplyman									
	Rapid Supplyman									
	Rapid Supplyman									
	Rapid Supplyman									
	Dishbursting Clk									
	Med Tech									
	Mess Mgt Spec									
	Mess Mgt Spec									
	Mess Mgt Spec									
	Mess Mgt Spec									
	Mess Mgt Spec									
	Mess Mgt Spec									
	Food Serviceman									
	Food Serviceman									
	BEQ Fac Maintman									
	BEQ Fac Maintman									
	BEQ Fac Maintman									
	AIHD									
	P/P AIHD Repair									
	P/P AIHD Repair									
	HYD AIHD Repair									
	Elect AIHD Repair									
	Mini-Vast Operator/Repair									
	AT2/AQ2/AQ2									
	AT2/AQ2/AQ2									

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